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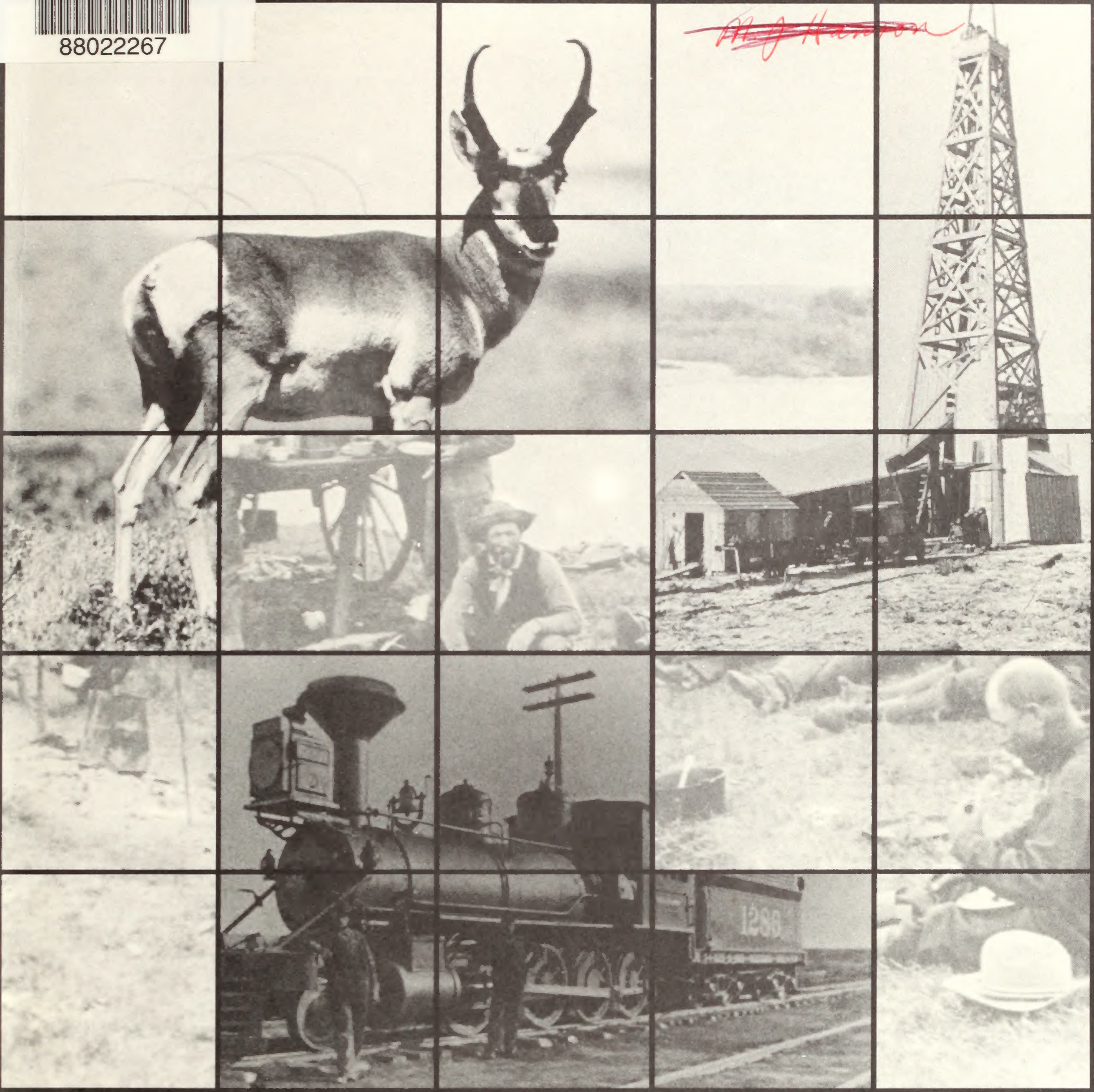

MEDICINE BOW-DIVIDE Resource Areas

Resource Management Plan
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Appendices - Glossaries - References - Maps

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COAL APPENDIX

INTRODUCTION

This appendix summarizes the final federal coal management decisions for the planning area. The process used to arrive at these decisions is briefly explained. This summary is intended to aid the public in understanding the federal coal management program as it applies to the planning area to show the requirements that must be met under 43 CFR 3400. These planning decisions will guide the development of the federal coal resource in this area during the remainder of the 1980s and afterward.

The Secretary of the Interior reviewed past policies for leasing federal coal and adopted a new federal coal management program in 1979. Supplemental decisions were made in 1986.

One of the recent supplemental decisions of the Secretary of the Interior was to allow the continuation of round two regional coal leasing efforts on the basis of existing management framework plan amendments. This means that the completion of this RMP/EIS is not required to lease round two tracts such as Indian Springs, Atlantic Rim, Northeast Cow Creek, or Wild Horse Draw. However, should this RMP/EIS be completed before any further reconsideration of these tracts, the planning decisions and mitigative measures herein could be considered in any renewed round two leasing consideration. This document or any amendments thereto will be necessary, however, for any later coal leasing efforts in the Green River-Hams Fork coal region. Any decisions concerning coal emergency leasing, exchanges, and the Savery preference right lease applications (PRLAs) may be made on the plans in existence at the time of the decision.

The objectives in managing the federal coal resource in this planning area are (a) to provide for both short- and long-range development of federal coal in an orderly and timely manner, consistent with the new federal coal management program, policies, environmental integrity, national energy needs, and related demands; (b) to identify federal coal that is acceptable for further consideration for leasing; and (c) to identify appropriate mitigation for sensitive areas. This RMP/EIS provides an analysis that can be used in considering areas for new competitive federal coal leasing and proposals for lease modifications, emergency leases, and exchanges.

REQUIREMENTS AND MITIGATION

Lessees would be required to develop their federal leases in compliance with applicable federal, state, and local laws and regulations. These would be considered in-place constraints on a lessee's activities.

All coal areas in the Green River-Hams Fork coal region are subject to the following mitigation requirements:

Cultural Resources

a. Before undertaking any activities that may disturb the surface of the leased lands, the lessee shall conduct a cultural resource intensive field inventory in a manner specified by the Authorized Officer of BLM on portions of the mine plan area and adjacent areas, or exploration plan area, that may be adversely affected by lease related activities and which were not previously inventoried at such a level of intensity. The inventory shall be conducted by a qualified professional cultural resource specialist (i.e., archeologist, historian, or historical architect, as appropriate) approved by the Authorized Officer of the surface managing agency (BLM if the surface is privately owned), and a report of the inventory and recommendations for protecting any cultural resources identified shall be submitted to the Regional Director of the Office of Surface Mining (OSM) and the Authorized Officer of BLM (or only to the Authorized Officer of BLM if activities are associated with coal exploration outside an approved mining permit area), to protect cultural resources on the leased land. The lessee shall undertake measures, in accordance with instructions from the Regional Director or Authorized Officer to protect cultural resources on the leased land. The lessee shall not commence the surface disturbing activities until permission to proceed is given by the Regional Director or Authorized Officer.

b. The lessee shall protect all known cultural resource properties within the lease area from lease related activities until the cultural resource mitigation measures can be implemented as part of an approved mining and reclamation plan or exploration plan.

c. The cost of conducting the inventory, preparing reports, and carrying out mitigation measures shall be borne by the lessee.

d. If cultural resources are discovered during operations under a lease, the lessee shall immediately bring them to the attention of the Regional Director or authorized officer, or the authorized officer of the surface managing agency if the Regional Director is not available. The lessee shall not disturb such resources except as may be subsequently authorized by the Regional Director or authorized officer. Within two (2) working days of notification, the Regional Director or authorized officer will evaluate or have evaluated any cultural resources discovered and will determine if any action may be required to protect or preserve such discoveries. The cost of data recovery for cultural resources discovered during lease operations shall be borne by the surface managing agency unless otherwise specified by the Authorized Officer of BLM or of the surface managing agency (if different).

e. All cultural resources shall remain under the jurisdiction of the United States until ownership is determined under applicable law.

Paleontological Resources

If paleontological resources, either large and conspicuous, and/or of significant value are discovered during construction, the find will be reported to the authorized officer immediately. Construction will be suspended within 250 feet of said find. An evaluation of the paleontological discovery will be made by a BLM approved professional paleontologist within five (5) working days, weather permitting, to determine the appropriate action(s) to prevent the potential loss of any significant paleontological value. Operations within 250 feet of such discovery will not be resumed until written authorization to proceed is issued by the authorized officer. The lessee will bear the cost of any required paleontological appraisals, surface collection of fossils, or salvage of any large conspicuous fossils of significant scientific interest discovered during the operations.

Black-footed Ferret Habitat

The lessee will be required to monitor and inventory the lease area for establishment of potential black-footed ferret habitat (i.e. prairie dog towns) and, if any such habitat is found, to conduct ferret inventories, all in accordance with the guidelines below. In the event that ferret occurrence is identified, the lessee will be required to adhere to any suggested modifications in the mining operation provided by the Fish and Wildlife Service and the BLM.

The following Black-Footed Ferret Inventory Guidelines will be followed. Proposed developments such as coal lease lands, power plant sites, well fields, dam sites, and other major, block-type developments should be surveyed for prairie dogs before the project is approved. If prairie dogs are found on the proposed site, colonies should be mapped on topographic maps and each colony surveyed using recommended Black-Footed Survey Procedures. Ferret searches should be scheduled as close to actual construction as is reasonable to minimize the possibility of missing ferrets that might move onto the area during the period between completion of surveys and the start of construction. Where project disturbance takes place over a long period of time, such as on a coal site, additional surveys for black-footed ferrets are recommended.

THE COAL PLANNING PROCESS

The federal coal management program established four major steps to be used in the identification of federal coal areas that are acceptable for coal development: (1) identification of coal development potential, including a call for coal resource information (43 CFR 3420.1-2); (2) application of the coal unsuitability criteria; (3) multiple-use conflict evaluation; and (4) surface owner consultation. Collectively, these steps, which are called the "coal screening process" (43 CFR 3420.1-4), are applied in sequence to the review area.

The four major steps and how they were applied to the review area are described below.

Step 1: Identification of Development Potential Coal

Areas of coal with potential for development are identified with the use of government drill hole data, data collected through exploration licenses, geological and economic data submitted by coal companies, and interpretations of available geological data from various other sources. Expressions of interest from the coal industry also are used to guide this identification process. Expressions of interest were received for the Atlantic Rim, Indian Springs, North Indian Springs, Wild Horse Draw, and Red Rim areas.

In applying this screening step, areas without development potential coal and areas with no known interest in development are excluded from further consideration. The areas found to have development potential are closer to existing transportation and/or contain better quality coal than the areas excluded from further consideration.

Table COAL-AP-1 presents coal quality and quantity data on all areas in the planning area that were determined to have coal with development potential. These areas are shown on map 24 in chapter 3.

The Red Rim, Wild Horse Draw, China Butte, and Atlantic Rim areas have potential for surface mining only. The Indian Springs and North Indian Springs areas have potential only for in situ development of the coal resources. There is potential for both surface and subsurface mining in the Northeast Cow Creek area and in the Hanna Basin area. The Northeast Cow Creek area contains coal with development potential for surface mining (119 million tons) and subsurface

TABLE COAL-AP-1

COAL RESOURCES IN THE PLANNING AREA

			Average Proximate Analysis					
Coal Area	Federal Acreage	Federal Tonnage (in place)	BTU/lb.[1]	Moisture (percent)	Volatiles (percent)	Carbon (percent)	Ash (percent)	Sulfur (percent)
Red Rim	9,720	40.6 x 10^6	8,560	22.21	not available	not available	9.30	0.45
Wild Horse Draw	1,280	1.7 x 10^6	10,818	12.07	not available	not available	7.57	0.67
China Butte	6,240	73.9 x 10^6	8,800	25.57	not available	not available	7.35	0.56
Indian Springs	2,500	25.0 x 10^6	9,626	14.75	34.00	42.52	8.24	0.33
North Indian Springs	3,840	25.0 x 10^6	9,015	17.14	37.42	37.75	7.69	0.46
Atlantic Rim	3,650	79.1 x 10^6	10,277	13.41	34.47	43.32	8.79	1.02
NE Cow Creek	7,325	201.8 x 10^6	10,656	15.07	33.40	46.70	5.00	0.94
Hanna Basin	30,040	191.0 x 10^6	10,140-10,420	12.58-12.76	34.30-36.68	41.82-45.19	7.93-8.75	0.46-1.00

[1] BTU/lb. = British thermal units per pound.

mining (82.8 million tons); the Hanna Basin area contains coal with development potential for surface mining (86 million tons) and subsurface mining (105 million tons).

The remaining three screening steps are applied to the coal areas identified in step 1. They are applied in sequence and only to the lands identified as acceptable for coal development in each preceding step.

Step 2: Application of Coal Unsuitability Criteria

As required by 43 CFR 3461, the 20 coal unsuitability criteria were applied to the areas identified in step 1.

These criteria involve consideration of existing resource values such as scenic areas, natural and historic values, wildlife, floodplains, alluvial valley floors, and other important features. The purposes of this step are (a) to identify areas with key features or environmental sensitivity that would make them unsuitable for surface coal mining, subsurface coal mining, or the surface operations and impacts associated with subsurface coal mining, and (b) to identify any appropriate mitigative measures resulting from the application of the unsuitability criteria and exceptions.

The results of the application of the unsuitability criteria to each coal area are described in the following sections.

Red Rim

No conflicts or unsuitable areas were identified for the Red Rim area under coal unsuitability criteria 1, 3 through 14, or 17 through 20.

Criterion 2-Rights-of-Way and Easements

In the Red Rim area, most of the rights-of-way crossing the coal areas can be relocated to accommodate coal mining and related activities. Thus, the BLM made a general determination that right-of-way areas are acceptable for coal development, subject to valid existing rights and negotiations for relocating if necessary. Any unforeseen conflicts in these areas should be identified and resolved during the coal activity planning process or in mining and reclamation plan development.

Criterion 15-Habitat for State High-Interest Wildlife

On September 27, 1982, the National Wildlife Federation and the Wyoming Wildlife Federation filed a petition with the Office of Surface Mining Reclamation and Enforcement (OSMRE) to designate approximately 9,000 acres as unsuitable. On May 19, 1986, the OSMRE published its decision in the *Federal Register*. In part, the notice read as follows:

> . . .Exercising this discretion, I decline to designate all or any part of the Red Rim petition area as unsuitable for surface coal mining operations, but hereby require that the approval of any Federal mining plan for the petition area include a condition that restricts from development the pronghorn winter range located within the south portion of the petition area until reclamation of pronghorn winter habitat in the north portion of the petition area has been demonstrated to be successful. . . .
>
> Reclamation in the north portion of the petition area shall be demonstrated to be successful when the Department of the Interior finds in writing that the operator/lessee has (1) demonstrated its capability to restore the carrying capacity of the critical winter range, (2) met the requirements of SMCRA, the applicable regulatory program, and the Bureau of Land Management's (BLM's) land-use planning decisions for the petition area, and (3) demonstrated that postmining vegetation would provide for pronghorn forage production equal to or greater than premining conditions. The postmining vegetation (composition and diversity [structural and species-specific]) must approximate premining conditions and be self-renewing when subjected to foraging use. The north portion of the petition area consists of secs. 24, 26, and 34, T. 21 N., R. 89 W.; secs. 4, 6, 8, and 18, T. 20 N., R. 99 W.; and secs. 12, 14, 22, and 24, T. 20 N., R. 90 W. The south portion of the petition area consists of secs. 26, 28, 32, and 34, T. 20 N., R. 90 W.; secs. 4, 6, 8, 18, and 30, T. 19 N., R. 90 W.; and secs. 24 and 26, T. 19 N., R. 91 W.

The decision made by OSMRE is consistent with this RMP/EIS.

Criterion 16-Floodplains

It was determined that the floodplain area of Separation Creek in the Red Rim area can be mined by all or certain stipulated methods of coal mining without substantial threat of loss to people or property and to the natural and beneficial values of the floodplain, either on a coal lease tract or downstream. Examples of mitigation may include relocation of channels during mining and restoration of channel locations after mining, controlling sediment yields and prohibiting spoil dumping in channels, lining channel bottoms, revegetation, and general mined-land reclamation. Therefore, no areas in the Red Rim area were found unsuitable under criterion 16.

Wild Horse Draw

No conflicts or unsuitable areas were identified in the Wild Horse Draw area under any of the unsuitability criteria.

China Butte

No conflicts or unsuitable areas were identified in the China Butte area under coal unsuitability criteria 1 through 14 or 17 through 20.

Criterion 15-Habitat for State High-Interest Wildlife

No areas in China Butte were determined to be unsuitable under criterion 15. The primary habitat consideration involved in the China Butte coal area is critical winter range for antelope and deer. If all or a significant portion of the crucial winter range for one or more of the big game species involved were to be mined or made available for mining during one time span, there probably would be significant long-term impacts on the survival of the herds.

However, in considering the exceptions to the criterion, the BLM determined that there would not be significant long-term impacts on the species being protected under certain stipulated methods of mining (such as habitat recovery, limited surface occupancy, or other mitigation requirements) or under sequential mining over a long period to maintain a proper mix and balance between areas disturbed by mining and undisturbed areas. Further, mitigative measures would be combined with appropriate mining methods to temper the impacts of mining in crucial winter range for big game. Therefore, these areas were determined to be acceptable for coal development with certain stipulated methods of mining and mitigation requirements under a concept of long-range leasing and development.

Criterion 16-Floodplains

It was determined that the floodplain area of Fillmore Creek can be mined by all or certain stipulated methods of coal mining without substantial threat of loss to people or property and to the natural and beneficial values of the floodplain, either on a coal lease tract or downstream. Examples of mitigation may include relocation of channels during mining and restoration of channel locations after mining, controlling sediment yields and prohibiting spoil dumping in channels, lining channel bottoms, revegetation, and general mined-land reclamation. Therefore, no areas in the China Butte area were found unsuitable under criterion 16.

Indian Springs and North Indian Springs

No conflicts or unsuitable areas were identified under coal unsuitability criteria 1, 3 through 10, 12, 13, or 17 through 20. All areas are acceptable for coal leasing under these criteria.

Criterion 2-Rights-of-Way and Easements

Most of the rights-of-way crossing the coal areas in Indian Springs and North Indian Springs can be relocated to accommodate coal mining and related activities. Thus, the BLM made a general determination that right-of-way areas are acceptable for coal development, subject to valid existing rights and negotiations for relocating if necessary. Any unforeseen conflicts in these areas should be identified and resolved during the coal activity planning process or in mining and reclamation plan development.

Criterion 11-Bald and Golden Eagle Nests

No areas in the Indian Springs and North Indian Springs areas were determined to be unsuitable for in situ coal development under criterion 11. However, for the protection of nesting eagles and the buffer zones around the nests, no surface operations will be allowed on such areas as long as the nest remains active. Any exceptions (if granted) for support facilities such as telephone lines, power lines, pipelines, or surface facilities will require that no surface-disturbing activities take place in nesting areas or buffer zones during breeding and nesting seasons (March 15-July 15). In addition, such exceptions will be subject to restrictive placement and type or design of facilities and seasonal occupancy and may be allowed only with prior written permission of the authorized officer. Since these and other bird species may move onto or off a given area or elsewhere in the project area, their activities must be monitored to determine changing protection requirements. At this time there is one active eagle nest in T. 21 N., R. 89 W., Section 12, N½.

Criterion 14-Migratory Bird Habitat

No areas in Indian Springs or North Indian Springs were determined to be unsuitable for in situ coal development under criterion 14. However, surface disturbance and occupancy on about 6,000 acres will be limited to very small-scale and seasonal uses because active ferruginous hawk and golden eagle nests are present. This area includes all of the Indian Springs area and all of the North Indian Springs area except T. 22 N., R. 89 W., Section 8, W½E½, W½, and Section 28, SW¼. Small surface disturbances such as pipelines and raptor-safe power lines may be allowed on the area so long as they are consistent with all current planning and management decisions and mitigation, and provided that no human activity or surface disturbance occurs during the nesting season (March 1 through July 15) and that the nest substrate (cliff, rimrock, or tree) within the buffer zones is not modified to disturb nesting eagles, prairie falcons, or ferruginous hawks. Larger disturbances like upgrading of existing roads or construction of new roads, buildings, or railroad facilities within the buffer zone will not be permitted.

A lease would be subject to the following mitigation:

> Any federal coal recovered from the Indian Springs Tract will be recovered by in situ coal development methods only.
>
> The lessee shall submit for approval to the BLM, U.S. Fish and Wildlife Service (USFWS), the Office of Surface Mining (OSM), and the state of Wyoming a habitat recovery and replacement plan for protection or enhancement of ferruginous hawk populations affected by habitat loss or displacement for present or historical habitat. The habitat recovery and replacement plan shall be developed in consultation with the BLM, OSM, state of Wyoming, and USFWS and may be submitted before or concurrently with the filing of the permit application package. However, because serious impacts can result from an inadequate plan, the BLM, OSM, state of Wyoming, and USFWS will be allowed a minimum of 120 days to review the habitat recovery and replacement plan and to resolve any conflicts or problems in the plan. Close coordination with the BLM, OSM, state of Wyoming, and USFWS during development of the plan will minimize the time needed for review and concurrence.
>
> The final habitat recovery and replacement plan shall indicate the methods to be employed by the lessee that will ensure that ferruginous hawk productivity and species diversity will not decline in the area.
>
> For the protection of nesting prairie falcons and ferruginous hawks and their associated buffer zones, no surface operations will be allowed in such areas. Any exceptions (if granted) for support facilities such as telephone lines, power lines, pipelines, or surface facilities will require that no surface-disturbing activities take place in

such areas during breeding and nesting seasons (March 15-July 15). In addition, such exceptions will be subject to restrictive placement and type or design of facilities and seasonal occupancy and may be allowed only with prior written permission of the Authorized Officer. Since these and other bird species may move onto or off a given area or elsewhere in the project area, their activities must be monitored to determine changing protection requirements.

Criterion 15-Habitat for State High-Interest Wildlife

No areas in Indian Springs or North Indian Springs have been determined to be unsuitable for in situ coal development methods under criterion 15. However, surface disturbances and occupancy on approximately 4,000 acres for pronghorn crucial winter range will be limited to very small-scale and seasonal uses (see map 54).

Criterion 16-Floodplains

It was determined that in situ coal development of Indian Springs and North Indian Springs could be undertaken without substantial threat of loss of life or property. Therefore, no areas were found unsuitable under Criterion 16 (floodplains).

Atlantic Rim

No conflicts or unsuitable areas were identified in the Atlantic Rim area under coal unsuitability criteria 1 through 10, 12, 16 through 18, or 20.

Criteria 11, 13, and 14-Bald and Golden Eagle Nests, Falcon Cliff Nesting Sites, and Migratory Bird Habitat.

No areas were determined to be unsuitable under criteria 11, 13, and 14. However, for the protection of nesting eagles, prairie falcons, and ferruginous hawks and the buffer zones associated with the nests of these species, no surface coal mining operations will be allowed in such areas. If any exceptions are granted for support facilities such as telephone lines, power lines, pipelines, or surface facilities, no surface-disturbing activities will be permitted in nesting areas or buffer zones during breeding and nesting seasons (March 15-July15). Such exceptions may be allowed only with prior written permission of the authorized officer and will be subject to restrictions on locations, type or design of facilities, and season of occupancy. Since these and other bird species may move onto or off a given area or elsewhere in the project area, their activities must be monitored to determine changing protection requirements.

Criterion 15-Habitat for State High-Interest Wildlife

No areas in the Atlantic Rim area were determined to be unsuitable under criterion 15. The primary habitat consideration involved in the coal area is critical winter and yearlong range for elk. The elk rely on a total yearlong range of 784,000 acres, of which about 327,000 acres is winter range and about 131,000 acres (17% of the total range) is "most critical" habitat, as defined under this criterion. Approximately 3,556 federal acres of this "most critical" habitat lie within this coal area.

The Atlantic Rim area was determined to be acceptable for further consideration subject to mitigation and reclamation that would allow mining while preventing long-term adverse impacts on the elk population.

Since the coal mine sites are part of the crucial elk winter range, human activity would be restricted, both to one or two pits at a time and to the mine site, as much as possible. The transportation system would be restricted to the corridor proposed in 1982, which is at least 0.25 mile from known elk use areas. This corridor follows Twenty-Mile Road from Rawlins to the west side of Atlantic Rim coal area.

Elk need to get to the north end of the Atlantic Rim during severe winters. Mining activity would be confined to the west-facing slopes, where people would be out of sight of elk moving to the north end via the east ridge. This also would minimize impacts on resident elk the rest of the year.

Since aspen patches are the primary thermal and hiding cover for resident elk, they would be protected from disturbance by mining. Aspen patches within a mile of the pits are particularly important for hiding cover.

To provide adequate food supplies for the wintering elk, the domestic livestock grazing on Atlantic Rim would be reduced on the area more than a mile from the mining sites. This will make up for the amount of food lost from areas where elk are displaced. Wild horses would be continuously controlled.

Livestock use can continue in the bottoms where snow accumulates, but grazing on south-facing slopes and windswept ridges would be prohibited.

Criterion 19-Alluvial Valley Floors

When the coal unsuitability review for the project area was conducted, possible alluvial valley floor areas were identified in two drainages that are in or near the project area-Separation Creek (in Jep Canyon) and Muddy Creek. These identified possible alluvial valley floor areas, or other areas near them where the proposed coal mining could interrupt or intercept water flow to farming areas along the drainages, may be mined only with mitigative measures for alluvial valley floor protection that are made a part of an approved mine plan. The state of Wyoming usually identifies alluvial valley floor areas and mitigative measures (if possible) during the mining plan approval and mine permitting stage.

Northeast Cow Creek

No conflicts or areas unsuitable for mining were identified in the Northeast Cow Creek area under coal unsuitability criteria 1, 3 through 10, 12, or 16 through 20.

Criterion 2-Rights-of-Way and Easements

Most of the rights-of-way crossing the coal areas in the Northeast Cow Creek area can be relocated to accommodate coal mining and related activities. Thus, the BLM made a general determination that right-of-way areas are acceptable for coal development, subject to valid existing rights and negotiations for relocating if necessary. Any unforeseen conflicts in these areas should be identified and resolved during the coal activity planning process or in mining and reclamation plan development.

Criteria 11, 13, and 14-Bald and Golden Eagle Nests, Falcon Cliff Nesting Sites, and Migratory Bird Habitat

No areas in the Northeast Cow Creek area were determined to be unsuitable for mining under criteria 11, 13, and 14. However, for the protection of nesting eagles, prairie falcons, and ferruginous hawks and the buffer zones associated with the nests of these species, no surface coal mining operations will be allowed in such areas. If any exceptions are granted for support facilities such as telephone lines, power lines, pipelines, or surface facilities, no surface-disturbing activities will be permitted in nesting areas or buffer zones during breeding and nesting seasons (March 15-July 15). Such exceptions may be allowed only with prior written permission of the authorized officer and will be subject to restrictions on locations, type or design of facilities, and season of occupancy. Since these and other bird species may move onto or off a given area or elsewhere in the project area, their activities must be monitored to determine changing protection requirements.

Criterion 15-Habitat for State High-Interest Wildlife

The primary habitat consideration involved in the Northeast Cow Creek coal area is critical winter range for deer and elk. Deer rely on a total yearlong range of 726,000 acres, of which about 300,000 acres is winter range and about 120,000 acres (14% of the total range) is "most critical" habitat, as defined under this criterion. A portion of this "most critical" habitat lies in the northernmost part of the coal area (map 53 in chapter 3). The distribution of critical elk habitat is concentrated in the southwest part of the coal area. It is shown in figure 10 of *Study of Elk in the Little Snake River KRCRA of Southcentral Wyoming* (Ward 1985).

The Northeast Cow Creek area was determined to be suitable for mining subject to mitigation and reclamation that would allow mining while preventing long-term adverse impacts on the deer and elk populations. The area is suitable only for subsurface mining methods.

Surface activities for the mining and transportation system would be confined to the proposed locations described in the BLM's "Summary of the Site-Specific Analysis and Tract Reports for Proposed Northeast Cow Creek Coal Tract" (November 1982). Transportation route Alternative A would be preferred from an elk use perspective.

The wild horses would be removed from the mine area and adjacent crucial elk winter range in the Cow Creek, Deep Gulch, and Wild Cow drainages. The Northeast Cow Creek area is outside currently established HMAs.

Domestic livestock can continue grazing in the bottoms, but they would be discouraged from using the south-facing slopes and windswept ridges that elk use in winter.

The present oil and gas access roads should tie into the coal mining transportation system to keep traffic concentrated and away from elk use areas as much as possible. Any permanent human settlement or recreation facilities should be discouraged.

Reclamation at the subsurface mine facilities should include an attempt to restore native vegetation.

The above requirements would result in 7,325 acres containing 119 million tons of coal being unsuitable for further consideration for leasing for surface mining.

Hanna Basin

Coal unsuitability criteria were applied to the unleased federal coal with development potential in the Hanna Basin. No conflicts or unsuitable areas were identified under coal unsuitability criteria 1, 3 through 8, 10, 11, 12, 14, 15, or 17 through 20.

Criterion 2-Rights-of-Way and Easements

Most of the rights-of-way crossing the coal areas in Hanna Basin can be relocated to accommodate coal mining and related activities. Thus, the BLM made a general determination that right-of-way areas are acceptable for coal development, subject to valid existing rights and negotiations for relocating if necessary, along with appropriate stipulations and consistency with current planning and management decisions. Any unforeseen conflicts in these areas should be identified and resolved during the coal activity planning process or in mining and reclamation plan development.

Criterion 9-Federally Listed Endangered Species Habitat

No areas in Hanna Basin were determined to be unsuitable under criterion 9. Some potential habitat areas for black-footed ferrets have not yet been searched to determine whether or not ferrets inhabit the areas. The necessary searches and consultation with the USFWS will be conducted during coal activity planning.

A comprehensive survey of bald eagle wintering areas and areas used during migration has been completed. The WGFD has identified a bald eagle wintering area along the Medicine Bow River adjacent to the Hanna Basin area, but additional fieldwork is required to document the size of the area and its importance. Data from BLM surveys during 1978 and 1979 indicate that eagles made little use of this area. No bald eagle nests have been identified.

No recent sightings of peregrine falcons have been documented for this area. Some limited potential for nesting peregrine falcons exists along Seminoe Reservoir, Medicine Bow River, and possibly Hanna Draw because of the presence of perennial streams and associated nesting sites.

Criterion 13-Falcon Cliff Nesting Sites

Approximately 100 acres of federal land containing 320,000 tons of coal were determined to be unsuitable for mining because of nesting falcons. The nest sites are in T. 22 N., R. 81 W., Sec. 8, NW¼ NE¼ and T. 23 N., R. 81 W., sec 20, NE¼ SE¼.

Criterion 16-Floodplains

It was determined that most identified floodplain areas in Hanna Basin can be mined without substantial threat of loss to people or property or to the natural and beneficial values of the floodplain, either on a coal lease tract or downstream. Examples of mitigation may include controlling sediment yields and prohibiting spoil dumping in channels, lining channel bottoms, revegetation, and general mined-land reclamation.

The floodplain of the Medicine Bow River in T. 23 N., R. 81 W., Sec. 6, was found unsuitable for mining under criterion 16. This involves approximately 10 acres containing 15,000 tons of federal coal.

All other floodplain areas were determined to be acceptable with mitigation as discussed above.

Step 3: Multiple-Use Conflict Evaluation

Groundwater and Surface Water Resources

Potential impacts on groundwater and surface water resources are of concern in the Indian Springs, North Indian Springs, Atlantic Rim, Northeast Cow Creek, and Wild Horse Draw areas. Mitigation would be applied in those areas to reduce the effects due to possible aquifer removal, interruption of groundwater flow, change in groundwater flow from replaced overburden, water quality changes from spoil material leaching and mixing between aquifers, and subsidence and/or fracturing of overlying rocks.

No areas are unacceptable; however, the following mitigation requirements would be applied:

The lessee shall prepare and submit to the BLM, concurrently with the filing of a permit application package, a hydrologic mitigation study, which includes a factual statement of the following:

a. Identification of all affected surface water, water table (unconfined), and artesian (confined) waters, including the location and direction of movement of all groundwater.

b. Appropriate characteristics of the waters, which might include yield or flow; conductance; pH; temperature; alkalinity; total dissolved solids; dissolved amounts of such elements as sulfates, chlorides, barium, cadmium, copper, iron, lead, radioactive materials, turbidity; and total dissolved oxygen.

c. Identification of development activities that would affect the above waters and the probable impact on such waters from each activity.

d. A discussion of the interrelationships between surface water and groundwater in the project area and the likely effects on this relationship from development of the Federal coal.

e. Identification of proposed mitigative measures to reduce the impacts identified in (c) above.

f. A plan for monitoring surface water and groundwater conditions in the project area and downstream from the project. The water quality standards of the Wyoming Department of Environmental Quality and the U.S. Public Health Service shall be used where applicable.

In addition, the following mitigation requirement would be applied in the Northeast Cow Creek and Indian Springs areas:

In accordance with state law and regulation, the permit application package submittal shall include a detailed description of the effects of possible mined land subsidence and faulting. This must include the proposed measures to be taken to prevent or minimize the effects of subsidence and faulting and procedures that will be taken in terms of backfilling, grading, contouring, etc., in the event any subsidence or faulting occurs.

Wildlife Habitat

Loss of wildlife habitat on surface-mined areas, roads, railroads, and facilities is unavoidable. Some losses would be short term and others would be longer term. In addition to the loss of habitat, some areas would become unusable by animals that are intolerant of human activity. No areas have been determined to be unacceptable; however, the following mitigation requirements would be applied in the Indian Springs, Atlantic Rim, Northeast Cow Creek, and Wild Horse Draw areas:

Recovery of wildlife habitat on the project area will be required. The lessee will be required to mitigate habitat loss caused by surface coal mining operations in the project area. Mitigation methods may require the lessee to employ techniques for wildlife forage manipulation or intensive wildlife habitat management.

Habitat recovery may not be completely feasible in the project area; therefore, recovery or replacement may be accomplished on lands made available through the surface management agency, the states, or the lessee outside the project area in combination with recovery and replacement methods on suitable lands within the project area. In regard to the above, the lessee will be required to develop a habitat recovery and replacement plan designed to protect and/or enhance wildlife habitat. This plan shall be prepared before mining plan approval, in consultation with and subject to approval by the BLM, U.S. Fish and Wildlife Service, OSM, and the state of Wyoming. The habitat recovery and replacement plan shall include, but will not be limited to, the following provisions:

1. A detailed description of the methods selected by the lessee to mitigate habitat loss, together with a comparative analysis of alternate methods that were considered and rejected by the lessee, and the rationale for the decision to select the proposed methods. The replacement may include, but is not limited to, the following techniques:
    a. Increasing the quantity and quality of forage available to wildlife
    b. The acquisition of wildlife crucial habitats
    c. Manipulation of wildlife habitat for selected wildlife species
    d. Recovery, replacement, or protection of important wildlife habitat by selected methods such as modifying or eliminating fencing
    e. Wildlife watering developments
2. A timetable giving the periods of time that will be required to accomplish the habitat recovery or replacement plan and showing how this timetable relates to the overall mining plan.
3. An evaluation of the final plan by the state of Wyoming. The state will comment on the methods selected and the techniques to be employed by the lessee and may recommend alternate recovery or replacement methods. If the state has recommended alternate methods, the lessee shall consider the state's recommendations and, if the lessee rejects the state's recommendations, the lessee shall indicate its reasons as required by provision b, above. If no state comment is included in the plan, the lessee shall verify its consultation with the state and the plan may be considered without state comment.
4. A habitat analysis of the lease area and those areas considered for off-site mitigation that identifies the following:
    a. Distribution of important wildlife species (game, nongame, sensitive species, species of high Federal interest, and threatened or endangered species)
    b. Distribution of important standard habitat types

Fisheries, Water Quality, and Recreation

Proposed coal development could cause significant adverse impacts at the Seminoe Reservoir, which is managed by the Bureau of Reclamation. Adverse impacts that could result from coal development are (a) interruption or interception of groundwater and surface water systems; (b) water transfer between the reservoir and mining pits, which could degrade water quality and impair fisheries habitat, recreational activities, and downstream water uses; and (c) impairment of scenic quality through visual intrusion of the mining operation and related recreational activities. For the protection of the water values of Seminoe Reservoir, no surface occupancy will be allowed within a 200-foot buffer zone between any surface coal mining operation and the high-water design elevation of 6,363.7 feet. Approximately 3,420 acres containing 22.4 million tons of coal are unacceptable because of this conflict.

Producing Oil and Gas Areas

Either surface or subsurface coal mining could conflict with producing oil and gas areas. Competitive federal coal areas covered by existing oil and gas leases are acceptable for further consideration for surface or subsurface coal leasing unless or until it is determined that coal development will interfere with producing oil and gas field operations or that such conflicts cannot be mitigated. If producing oil and gas fields are established in any of the competitive federal coal areas before coal leases are issued, and if it is determined that unmitigable conflicts would exist between coal development and oil and gas operations, coal leasing would be deferred on the affected areas.

Lands Near Populated Areas

Federal coal lands in T. 22 N., R. 81 W., Sec. 16, NW¼ NW¼, and Sec. 18, S½ NW¼, are near the towns of Hanna and Elmo. The impacts of coal development on the residents of Hanna and Elmo are a concern. In addition, there are structures on federal land in section 18 related to Hanna's water system.

These lands have been determined to be acceptable for further consideration subject to mitigation. Specific mitigative measures to protect the quality of life and provide for improvements on the land would have to be acceptable to the residents of Hanna and Elmo. These measures should be worked out in coordination with local residents as soon as the BLM receives any possible lease proposal.

Step 4: Surface Owner Consultation

Section 714 of the Surface Mining Control and Reclamation Act (SMCRA) requires that the BLM consult with certain "qualified" owners of "split estate" lands (privately owned surface over federally owned coal) when surface mining of the federal coal is being considered.

Surface owners who may be "qualified" under Section 714 of SMCRA are asked to state their opinion for or against surface coal mining on their land. Areas where a significant number of qualified owners oppose surface mining of federal coal are eliminated from consideration for this mining method.

This step does not apply to areas where only subsurface mining methods are concerned. It involves only split estate lands within competitive federal coal areas that remain acceptable for development by surface mining methods after the multiple-use conflict evaluation has been conducted.

The Red Rim, Wild Horse Draw, Indian Springs, North Indian Springs, and China Butte areas do not contain split estate lands as defined in this section. The Northeast Cow Creek area is acceptable only for subsurface mining methods; therefore, surface owner consultation will not be completed.

Split estate lands in the Atlantic Rim coal area are as follows:

T. 18 N., R. 90 W., Sec. 28, W½NW¼, SE¼NW¼, NE¼SW¼

T. 19 N., R. 89 W., Sec. 31, all.

Split estate lands in the Hanna Basin coal area are as follows:

T. 21 N., R. 82 W., Sec. 4, lots 1 and 2, S½NE¼

T. 22 N., R. 81 W., Sec. 18, NE¼NW¼

T. 23 N., R. 80 W., Sec. 4, lots 3 and 4, S½NW¼, SW¼, W½SE¼, SE¼SE¼

T. 23 N., R. 84 W., Sec. 23, W½SE¼; Sec. 35, NW¼NW¼

Previous planning efforts in the Atlantic Rim and Hanna Basin areas did not result in lands being eliminated from further consideration through the surface owner consultation process.

The process of identifying and consulting with current "qualified surface owners" is currently ongoing.

CULTURAL RESOURCES/NATURAL HISTORY APPENDIX

CULTURAL RESOURCES

Program Objectives

The BLM has developed a cultural resources program designed to inventory, evaluate, and manage cultural resources on BLM-administered public land and in areas of BLM responsibility. The BLM management of cultural resources (archeological, historic, and socio-cultural properties) is in accordance with the provisions of the National Historic Preservation Act of 1966, as amended, and other applicable legislation. The objectives of the program are as follows:

> To protect and preserve representative samples of the full array of cultural resources for the benefit of scientific and socio-cultural use by present and future generations.
>
> To ensure that cultural resources are given full consideration in all land-use planning and management decisions.
>
> To manage cultural resources so that scientific and socio-cultural values are not diminished, but rather are maintained and enhanced.
>
> To ensure that the BLM's undertakings avoid inadvertent damage to cultural resources, both federal and nonfederal.

Inventories

The BLM conducts cultural resource inventories for actions involving public lands and/or federal minerals that include surface disturbance as a part of the action. Three classes of inventory have been established; Class III is the most intensive. Class I inventories are completed with the use of existing data from cultural resource inventory files maintained by both the BLM and the Wyoming State Historic Preservation Office. Professional literature and other sources of data also are employed to complete Class I inventories when appropriate.

Class I inventories serve two basic purposes. When completed for large areas such as a planning unit, Class I inventories establish a baseline that allows full consideration of cultural resources in land-use planning and management decisions, particularly as these decisions relate to the preservation and enhancement of cultural resource values. Class I inventories also are completed for specific areas in which proposed actions may be authorized. When completed for specific proposed actions, Class I inventories serve to identify known properties and are used to determine if more intensive inventory of specific areas is appropriate. This determination is made in consultation with the Wyoming State Historic Preservation Office and often results in the completion of Class II or Class III inventories.

Class II inventories employ field methodologies that are similar to those used to complete Class III inventories. However, in Class II inventories, sampling strategies are used in which a percentage of a given land area is inventoried at a Class III level of intensity and the results are projected over the entire land area. Class II inventories can be used to develop predictive models of the distribution of cultural resources within a given land area. They are often completed early in the planning stages of large projects involving public lands and/or federal minerals.

A Class III inventory is an intensive inventory of a given land area that results in the identification of all cultural resources within that area. Personnel complete Class III inventories by walking parallel sweeps across land areas with a maximum spacing of 30 meters between sweeps. Class III inventories are generally required before surface-disturbing actions are authorized on public lands and/or on private or state lands if extraction of federal minerals is involved. This ensures that BLM undertakings do not result in inadvertent damage to cultural resources and provides for the preservation of significant cultural resource values.

Evaluation

The BLM evaluates the significance of cultural resources identified during inventory in consultation with the Wyoming State Historic Preservation Office to determine if the resources are eligible for inclusion on the National Register of Historic Places. To facilitate evaluation of cultural resource values in Wyoming, the BLM has devised guidelines for determining the eligibility of archeological and historical sites and historic trails (BLM Manual supplement 8143, appendix 7). The guidelines supplement the National Register criteria for evaluation (36 CFR 60.4) and provide consistency across the state. Application of the guidelines ensures that significant cultural resources are recognized and managed accordingly.

After determination of eligibility, significant cultural resource properties are further evaluated for assignment to one or more use categories. The BLM has established seven use categories, as follows:

1. Current scientific use is a category that applies to any cultural property that is the subject of an ongoing scientific or historical study or project, under permit or cooperative agreement, at the time of evaluation. Upon completion of that study or project, the cultural property will be assigned to another use category.
2. Potential scientific use is a category that applies to any cultural property determined to be currently eligible for consideration as the subject of scientific or historical study utilizing research techniques currently available, including study that would result in its physical alteration. This category signifies that the cultural property need not be conserved in the face of an appropriate research or data recovery (mitigation) proposal.
3. Conservation for future use is a category reserved for any unusual cultural resource that, because of scarcity, a research potential that surpasses the current state-of-the-art, singular historic importance or architectural interest, or comparable reasons, is not currently eligible for consideration as the subject of scientific or historical study that would result in its physical alteration. It is considered worthy of segregation from other land or resource uses that would threaten the maintenance of its present condition, and it will remain in this use category until specified provisions are met in the future.
4. Management use is a category that may be applied to any cultural property considered eligible for controlled experimental study that would result in its physical alteration, to be conducted by the BLM or other entities concerned with the management of cultural properties. Expenditure of cultural properties or cultural resource data may be justified for purposes of obtaining specific information leading to a better understanding of kinds and rates of natural or human-caused deterioration, effectiveness of protection measures, and similar lines of inquiry, the results of which would ultimately aid in the management of cultural properties.
5. Socio-cultural use is a category to be applied to any cultural resource that is perceived by a specified social and/or cultural group as having attributes that contribute to maintaining the heritage or existence of that group. This category signifies that the cultural resource is to be managed in a way that takes those attributes into account, as applicable.
6. Public use is a category that may be applied to any cultural property found to be appropriate for consideration as an interpretive exhibit-in-place, a subject of supervised participation in scientific or historical study, or related educational and recreational uses by members of the general public.
7. Discharged use means that a cultural property that previously qualified for assignment to any of the categories defined above no longer possesses the qualifying characteristics for that use or for assignment to an alternative use, that records pertaining to it represent its only remaining importance, and that its location no longer presents a management constraint for competing land uses.

When a cultural resource property is assigned to one or more use categories, a decision is made pertaining to the management of that property. The criteria and guidelines for the evaluation of cultural resources and the assignment of significant cultural resource properties to specific use categories would remain unchanged under all the alternatives addressed in this plan.

Management

Management objectives for significant cultural resource values provide a direct link between the assignment of properties to use categories and the achievement of the cultural resource program objectives. The BLM defines three basic management objectives for significant cultural resource values, as follows:

Management for Information Potential. Cultural resources managed for information potential are capable of contributing useful scientific, historical, or management information. This information potential is to be protected to the extent needed, by physical or administrative means, until the potential has been realized through appropriate study.

Management for Public Values. Cultural resources managed for public values possess identified socio-cultural, educational, recreational, or other public values. Their locations are to be managed in a manner that gives adequate consideration to these values.

Management for Conservation. Cultural resources managed for conservation have overriding scientific or historical importance. They are to be managed by the means necessary to maintain them in their present condition and to protect them from potentially conflicting land or resource uses.

Specific actions necessary to accomplish management objectives for a given property are identified through the BLM planning process, which culminates in the implementation of activity plans.

The basic management objectives for significant cultural resource values would remain unchanged under all of the alternatives addressed in this plan.

Specific management actions that could be taken to achieve these objectives at selected significant properties are described in the discussions of the various alternatives. Management objectives for significant properties that have not yet been identified or for which inventory data are insufficient as of this writing will remain unchanged, but management actions for these properties will be prescribed case by case and will be addressed in amendments to this plan when appropriate.

Standard Protective Measures

Description

Within the framework described above, the BLM has developed protective measures to minimize adverse effects on significant cultural resource values.

Protective measures are used in response to the actions of BLM programs involving surface disturbance. These measures include cultural resource inventories, evaluation of cultural resources located during inventory, and mitigation of potential adverse impacts on significant cultural resources. Mitigation may include avoidance, data recovery (including excavation), or other protective measures. Avoidance is the primary and preferred mitigative measure used to protect cultural resources. Consultation with the Wyoming State Historic Preservation Office and the Advisory Council on Historic Preservation is required when surface-disturbing actions are expected to affect significant cultural resources.

Modification

Under certain circumstances, the protective measures described are modified to take into account emergency situations and the surface management regulations for leasable and locatable minerals.

Fire Management

The BLM's fire management responsibilities, particularly in areas designated for full suppression with no equipment restrictions, preclude the completion of inventories before surface-disturbing actions are initiated to contain and control wildfire. After wildfires have been suppressed, inventories generally are completed to determine if cultural and natural history resources have been adversely affected. Historically, impacts have not often occurred because the use of heavy equipment has been limited primarily to areas with high-density fuel loads, whereas most cultural and natural history resource values are in areas with less dense fuel loads. The potential loss of cultural and natural history resources in the rest of the planning area has been lower.

Leasable Minerals-Coal

Actions involving coal mining are subject to standard protective measures; however, these procedures are not implemented until a lease has been issued and a mine plan has been prepared. Before a lease is issued, lands that could be included in the lease are reviewed under the coal unsuitability criteria (43 CFR 3461). One criterion that would render lands unsuitable is the presence of cultural resource properties that are on the National Register of Historic Places. Cultural resource properties that have been determined to be eligible, but have not been listed, do not fulfill this unsuitability criterion.

Although Class III inventories are completed before any surface disturbance can begin, the BLM's opportunity to preserve significant cultural resource values in place can be precluded in coal areas if known cultural properties are not on the National Register. In cases such as this, mitigative action such as data recovery would be implemented. However, it is possible that cultural resource properties that otherwise would have been nominated to the National Register of Historic Places (including those known to be eligible) would be destroyed, albeit following the implementation of mitigative actions such as test excavation.

Leasable Minerals-Oil and Gas

When applications for permit to drill are processed, the provisions of Onshore Oil and Gas Order No. 1 limit the BLM's authority to require the completion of Class III cultural resource inventories to cases in which there is reason to believe that properties listed or eligible for listing on the National Register are present. This requires that the results of Class III cultural resource inventories be extrapolated from existing data. However, the distribution of significant cultural resource properties often cannot be accurately predicted on the basis of these data; hence, significant properties may not be identified because there may be no reason to believe that they exist before surface-disturbing activities are authorized.

Locatable Minerals

For actions involving locatable minerals, standard protective measures are modified to take into account the regulations of 43 CFR 3809. These regulations limit the BLM's authority to control surface-disturbing activities associated with locatable minerals activity, particularly where mining activity involves fewer than 5 acres of surface disturbance. Protective measures required for mining activity on fewer than 5 acres are a 15-day notification period before mining activity can begin, a provision that the operator may not knowingly disturb "any historical or archeological site, structure, or building on federal lands" (43 CFR 3890.2-2(e)(1)), and a ten-day period in which known cultural resources jeopardized by mining operations can be evaluated, protected, and/or removed by the BLM. As the BLM is not always able to complete inventories for small mining operations, it is possible that significant cultural resources could be unknowingly damaged by an operator who failed to recognize these resources.

Protective measures are less limited when operations involve more than 5 acres. In these cases, a plan of operations must be submitted to the BLM for approval. This gives the BLM greater latitude to complete inventories and mitigate impacts, although each must be accomplished at the BLM's expense and within established time limits. Plans of operations are required for all mining activity within areas of critical environmental concern (ACECs).

NATURAL HISTORY

The BLM's natural history program, as administered within the planning area, focuses primarily on the management of public lands in designated and proposed national natural landmarks (NNLs) and on the management of paleontological resources.

National Natural Landmarks

The Secretary of the Interior established the NNL program in 1962 to recognize and preserve the best examples of various biotic communities and geological features. Although the program is administered by the National Park Service, lands administered by the BLM can be included within designated areas, as can lands in private ownership. The planning area contains three designated NNLs, and a fourth is in the nomination process. In addition, three proposed NNLs await further study by the National Park Service and may subsequently be recommended for nomination. Designated and proposed NNLs are described in chapter 3.

The BLM is responsible for considering the existence and location of NNLs when assessing the effects of its actions on the environment under section 102(2)(c) of the National Environmental Policy Act (NEPA).

Paleontological Resources

Authority and Guidelines

Guidelines to ensure that the BLM in Wyoming meets its statutory obligation for protection of paleontological resources are outlined in the draft Wyoming paleontology manual issued by the Wyoming State Office, BLM. The authority and mandates for the BLM to manage and protect paleontological resources are found in the following legislation:

Surface Mining Control and Reclamation Act of 1977 (SMCRA)
Federal Coal Leasing Amendment Act of 1976 (FCLAA)
Federal Land Policy and Management Act (FLPMA)
Archeological and Historic Preservation Act of 1974 (88 Stat. 174)
National Environmental Policy Act of 1969 (NEPA)
Minerals Material Act of 1947, as amended (30 U.S.C. 601 et seq.)
Historic Sites Act of 1935
Mineral Leasing Act of 1920
Antiquities Act of 1906

Management and Protective Measures

The classifications of paleontological resources (as shown in table C/NH-AP-1)) determine the procedures to be followed before a paleontological clearance to proceed with a project can be granted. A BLM inventory is required in Class I and Class II areas before surface disturbance can begin. Inventories are not required in Class III and Class IV areas; however, any significant fossil finds are protected by application of the following stipulation:

> The holder of this authorization shall immediately bring any paleontological resources or fossils discovered as a result of operations under this authorization to the attention of the authorized officer. The holder shall suspend all activities in the vicinity of such discovery until notified to proceed by the authorized officer. The authorized officer will evaluate, or will have evaluated, such discoveries not later than five working days after being notified, and will determine what action shall be taken with respect to such discoveries. The decision as to the appropriate measures to mitigate adverse effects to significant paleontological resources will be made by the authorized officer after consulting with the holder. The holder may be responsible for the cost of any investigations necessary for the evaluation, and for any mitigative measures.

TABLE C/NH-AP-1
PALEONTOLOGICAL CLASSES

Classes	Procedure
I. Critical Any locality from which holotype or critical reference material (i.e., paratype, lecto-type, etc.) has been collected. Any type geologic reference section which is critical for future reference.	**Critical** No action will be allowed which will damage the fossil resource or alter the contextural relationships of fossil materials. Materials may be removed, but by special permit only to qualified professionals.
II. Significant Any locality which contains rare, exceptionally well preserved or critical materials for stratigraphic or paleo-environmental interpretation.	**Significant** Depending on the size of the deposit, approved mitigation may include total salvage or may be limited to a statistically valid sample of all forms present.
III. Important Any locality which has produced plentiful (relatively common in the locality and elsewhere) fossil materials which are useful for stratigraphic and variability studies.	**Important** A statistically valid sample will be obtained to mitigate any adverse impact on the resource.
IV. Insignificant Any locality which produces poorly preserved, common elsewhere or strati-graphically unimportant material.	**Insignificant** Mitigation is optional.
V. Unimportant Any locality which has been intensively surveyed and determined to be of minimal scientific interest. This can include any outcrop of geological formations described as unfossiliferous in technical journals or publications.	**Unimportant** No mitigation necessary.

Significant fossils are known to occur in certain geologic units or formations in the planning area. These geologic units and formations have been classified to indicate the actual and potential occurrence of significant fossils, as indicated in table C/NH-AP-2.

A paleontological collecting permit is required for collection of fossil vertebrates and scientifically significant invertebrate and plant fossils. The intent of the permitting process is to manage the collection of scientifically significant fossils.

A fossil of significant scientific interest is identified by one or more of the following characteristics:

Preservation of soft body parts

Preservation of delicate or uncommon shell or skeletal parts of invertebrates

Close or intimate association of plants with animals

Preservation of the skull, whole isolated bones, or other diagnostic materials of poorly known or unknown vertebrates

TABLE C/NH-AP-2

PALEONTOLOGICAL SIGNIFICANCE OF UNITS AND FORMATIONS

Unit Symbol[1]	Unit	Class[2]
	Quaternary	
Qa	Alluvium and Colluvium	V
Qt	Gravel, Pediment, and fan deposits	V
Ql	Playa and Lacustrine	V
Qls	Landslide Deposits	V
Qs	Dune and Loess	V
Qg	Glacial Deposits	V
Qtc	Conglomerate	V
	Tertiary	
Tm	Miocene Rocks	III
Tmu	Upper Miocene Rocks	III
Tn	North Park Formation	II
Tbp	Browns Park Formation	II
Twr	White River Formation	II
Twrb	Brule Member	III
Twru	Upper Conglomerate Member	III
Twre	Chadron Member	III
Toe	Oligocene and Upper and Middle Geocene Rocks	III
Tip	Ice Point Conglomerate	III
Twa	Washakie Formation	II
Twb	Wagon Bed Formation	II
Tb	Bridger Formation	II
	Green River Formation	
Tgl	Laney Member	II
Tgt	Tipton Shale Member	II
Tglu	Luman Tongue	II
Tgw	Wilkens Peak	II
Tw	Wasatch Formation	II
Twc	Cathedral Bluffs Tongue	II
Twn	Niland Tongue	II
Twm	Main Body	II
Tbs	Battle Springs Formation	IV
Tbw	Transitional Unit between Battle Springs Formation and Wasatch Formation	IV
Tfu	Fort Union Formation	II
Twdr	Wind River Formation	II
Tkf	Ferris Formation	II
Tco	Coalmont Formation	III
Tha	Hanna Formation	II
Tbf	Basal Flows and Intrusive Rocks	V
Tml	Lower Miocene Rocks	III
Tmo	Lower Miocene and Upper Oligocene Rocks	III
	Cretaceous	
Kl	Lance Formation	IV
Kmb	Medicine Bow Formation	IV
Kle	Lewis Shale	IV
Kmv	Mesaverde Group	III
Ks	Steele Shale	IV
Ksn	Steele Shale and Niobrara Formation	IV
Kn	Niobrara Formation	IV
Knt	Niobrara, Frontier, Mowry, Thermopolis	IV
Kf	Frontier Formation	IV
Kmt	Frontier, Mowry, Thermopolis	IV
Kmt	Mowry, Thermopolis	IV
Kj	Cloverly, Morrison Formations	II
Kjs	Cloverly, Morrison, Sundance Formations	II
Kp	Pierre Shale	IV
	Jurassic	
Js	Sundance Formation	IV

TABLE C/NH-AP-2 (Continued)

PALEONTOLOGICAL SIGNIFICANCE OF UNITS AND FORMATIONS

Unit Symbol[1]	Unit	Class[2]
	Triassic	
TrPg	Goose Egg Formation	IV
TrPcg	Chugwater, Goose Egg Formation	IV
Trc	Chugwater Formation	IV
TrPjs	Jelm, Chugwater, Forelle, Satanka	IV
MzPz	Mesozoic and Paleozoic Rocks	IV
	Pennsylvanian	
Pfg	Forelle Limestone, Satanka Shale	IV
PPc	Casper Formation	IV
PPcf	Casper, Fountain Formations	IV
PPM	Casper Formation and Madison Limestone	IV
PM	Tensleep and Amsden	IV
Pzr	Madison Limestone and Cambrian Rocks	IV
	Mississippian	
Mda	Guernsey Formation	
Mm	Madison Limestone	IV
Cr	Cambrian Rocks	V
	Precambrain Rocks	
Xsv	Medasedimentary and Metavolcanic Rocks	V
Xcl	Libby Creek Group	V
Xdl	Deep Lake Group	V
MVsw	Metasedimentary and Metavolcanic Rocks	V
Ws	Metasedimentary Rocks	V
Wmu	Metamorphosed Mafic and Ultramafic Rocks	V
Wgn	Granite Gneiss	V
Ys	Sherman Granite	V
Yls	Pyroxene and hornblende syenite	V
Yla	Anorthosite and Norite	V
Xqd	Quartz Diorite	V
Xgy	Granitic Rocks of 1,700—Ma Age Group	V
Xm	Mafic Intrusive Rocks	V
Wg	Granitic Rocks of 2,600 Ma Age Group	V
Pw	Mafic Intrusive Rocks	V

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[1] Geologic unit symbols can be correlated with Geologic Map of Wyoming.

[2] Paleontological sensitivity classes are from BLM instruction memorandum WY-86-331, "Paleontology Handbook," appendix 3, "Instruction on Paleontological Sensitivity."

[3] Ma = million years (approximately)

A high concentration and diversity of plants and animals

Fossils poorly known or new to the paleontological literature

Unique or signaficant geographic or stratigraphic position such as type, locality, only known occurrence, or reptile-mammal transition

Materials having the potential for clarifying the evolutionary structure, development and behavior of the organism and/or its environment

A fossil is not considered significant if (a) it is of a species that occurs in large numbers throughout a large geographic area or (b) it does not provide additional scientific data not found in other specimens of the same species.

The significant fossils in the planning area are vertebrate fossils.

FIRE MANAGEMENT APPENDIX

FIRE MANAGEMENT DESIGNATIONS

The various levels of fire suppression are described in the following sections. Map 3 in chapter 2 indicates the areas in each category.

Four fire suppression designations are being considered in this RMP. The present management options for handling wildfire are described as follows:

Full Suppression

The objective of the full suppression option is to suppress all wildfires as quickly as possible using all available resources.

The lands designated for full suppression are areas with (a) large amounts of intermingled or adjacent private or state lands, (b) high value items of human construction, or (c) very high value wildlife habitat or historical or other resources. The values that could potentially be destroyed by uncontrolled wildfire far outweigh the damages that could occur from firefighting activities. For these reasons, wildfires in these areas should be suppressed as quickly as possible.

Full Suppression With Management Options

In areas of full fire suppression "with management options," management options are restrictions on standard full suppression firefighting techniques. The use of heavy equipment such as bulldozers is not precluded with this option, but their use on initial attack is limited, and fire authorities must analyze a fire situation critically before committing heavy equipment to a fire.

This option is applied to areas with important resources such as visual resources, wildlife habitat, soils, timber, and recreation. In addition, these areas contain either many constructed improvements or large areas of intermingled private and state lands, or both. Because these improvements, resources, and other lands could be severely damaged by uncontrolled fires, fires should be suppressed as quickly as possible. However, the inherent values in the area could be damaged beyond immediate repair through the uncontrolled use of heavy ground equipment in the firefighting operations; therefore, limitations could be put on the use of heavy equipment.

Limited Suppression

Under limited suppression, there would be no initial attack on the fire, and an observer would monitor a wildfire to ensure that management objectives were being met. A wildfire would be suppressed in these areas when the fire (a) exceeded or had the potential to exceed the size specified in a predetermined plan, (b) threatened private property, (c) threatened other artificial structures, or (d) threatened human life.

The areas chosen for limited suppression generally are somewhat remote, with few constructed improvements and small amounts of intermingled private and state lands. These areas may contain large blocks of steep, rugged terrain that would pose an undue safety hazard to firefighters.

Limited Suppression After Consultation

The one remaining area identified on map 3 is proposed for a limited suppression classification following consultation and agreement with the landowners in the area. The objective of this option is the same as for limited suppression; however, the area involved does contain private land. If agreement cannot be reached to allow limited suppression of wildfires, the area would be managed under a full suppression classification.

FIRE MANAGEMENT PLANS

Fire management plans (FMPs) will be written for each designation. The FMP for each area will explain in more detail the suppression actions to be taken, list initial equipment required and options available, and define the critical resources within the designated area.

Buffer zones between limited and full suppression areas will be established as appropriate in the fire management plans. They will not take landownership boundaries into account unless resource values are significantly higher or the need for protection of human life, structures, or facilities is evident at or near the boundary. Buffer zones generally will be at least ¼ mile wide. The width may vary case by case, depending upon predicted rate of spread, fire behavior, and values at risk.

FORESTRY APPENDIX

THE FORESTRY PROGRAM

Overview

This appendix was developed to supplement the discussion of forestry in chapters 1 through 4 by providing more information about the forest resource and program.

The forestry program for the planning area is directed at managing the forested lands in a healthy, productive condition. Forest management activities include timber sale preparation, sale administration, site preparation for tree regeneration, tree planting, timber stand improvement through thinnings, forest inventory surveys, and surveillance of insect and disease problem areas.

Forest Management Plans

Forest management plans (FMPs) have been prepared for the commercial forestland in the planning area. These activity-level plans provide detailed information on the forest resource, the planned site-specific management activities, and the action plan needed to implement RMP-level decisions. The plans are periodically updated as new information becomes available or as needs arise. The approval of this RMP will cause some changes or modifications in the FMPs now in effect.

The FMPs provide detailed information on site needs, growth characteristics, management information on the individual tree species encountered in the planning area, and current forest inventory information. Major insect and disease problems are evaluated.

Planning Area Silvicultural Practices

Silvicultural practices are on-the-ground activities that are used to manipulate the establishment and/or the growth of trees. The major silvicultural practices used in the planning area are described in the following sections, and the applicability and use of these practices are explained.

Regeneration

Regeneration refers to the reforestation process, in which trees in an area are reestablished. The term also can refer to the tree seedlings that become established in the area.

The need for regeneration in this planning area results either from past wildfires or from human activities (such as timber harvesting). Areas that cannot support tree growth because of physical characteristics such as soil features and water availability are easily identifiable by soil surveys and site inspections.

In areas where the existing tree cover has been totally or partially removed, natural or artificial regeneration may be used. In *natural regeneration,* the area is allowed to reforest through seeds left on the site, seeds blown into the site, or a process called root suckering. Natural regeneration requires proper seedbed preparation, a good seed crop, and cooperating weather. The forest species common to this planning area lend themselves easily to this method of regeneration.

Artificial regeneration is carried out by foresters, who place seeds on or in the ground or plant tree seedlings. Artificial regeneration can be used to reestablish trees in a shorter time, to convert the site from one tree species to another, to improve the genetic stock in the area (usually economically unfeasible for this planning area), to supplement natural regeneration to achieve desired stocking levels, or to provide the means of regeneration if natural regeneration fails.

It is BLM policy to conduct first, third, and fifth year surveys to monitor an area following a harvesting activity to allow for natural regeneration. Regardless of the regeneration method, it is BLM policy that stands will be adequately reforested within 15 years following harvest.

The determination of the desired stocking level depends on tree species, site quality, economics, and multiple-use objectives. The guidelines used in this planning area are shown in table FOR-AP-1.

TABLE FOR-AP-1

STOCKING LEVELS FOR REFORESTATION

Species	Age	Desired Trees Per Acre
Lodgepole pine	10	1,500
Spruce-fir	10	300
Ponderosa pine	[1]	[1]
Aspen	[1]	[1]

[1] Depends on site-specific objective.

Stand Development

The stand development period refers to the time from stand establishment (regeneration) to the harvest or death of the stand. Silvicultural practices are performed during this period to improve the stand's growth, to reduce insect and disease problems, or to achieve other management objectives. Common stand development projects are precommercial thinning, commercial thinning, and stand eradication.

Thinning reduces the number of trees per acre so that stagnation of growth is prevented and the future growth potential is placed on fewer trees per acre. This operation leaves a specified number of trees per acre at desirable spacing levels and promotes a more merchantable product; that is, trees that are taller and have a larger diameter. Thinning also can be used to reduce the occurrence of dwarf mistletoe or to prevent future mountain pine beetle problems. Two types of thinning are used in the planning area.

Precommercial thinning is used when a timber stand is in need of thinning, but no merchantable product can be attained. In these cases, the BLM pays for the work to be done. Guidelines used in lodgepole pine precommercial thinning projects for this planning area are shown on table FOR-AP-2. *Commercial thinning* refers to situations in which the BLM can sell the cut trees; thus, an investment of funds is not required. However, the trees must be large enough to interest a buyer.

TABLE FOR-AP-2

GUIDELINES USED IN LODGEPOLE PINE PRECOMMERCIAL THINNING PROJECTS IN THE PLANNING AREA

Average Stand Diameter	Reduce Trees Per Acre To
2	605
3	538
4	436
5	302
6	302

NOTE: If the stand contains more than 2,500 trees per acre, the stand should be thinned at age 10 to 20 years. If it contains fewer than 2,500 trees per acre, thinning can be delayed until age 30 years. If the stand is more than 70 years old, thinning is not recommended, as future growth increases will be too small to justify the investment.

Stand eradication projects are desirable when a particular forest stand has virtually no annual net growth because of a combination of the following factors:

> There is an excessive number of small diameter trees: more than 2,000 trees per acre less than 5 inches diameter at breast height (dbh).
>
> The age of the stand is advanced: mature, or older.
>
> There is a high prevalence of insect or disease problems.
>
> Most importantly, there is little or no merchantable wood.

Stand eradication projects involve complete removal of existing trees to prepare the area for regeneration. Complete removal is necessary to eliminate disease problems and competition for water and light. This work is usually done by felling and machine piling the trees, or by simply pushing them over with a bulldozer and machine piling. Prescribed burning is another management tool, but in this region burning usually is reserved for aspen treatments. This type of work differs from harvesting in that the BLM pays for the work to be done because the removed trees are unmerchantable.

Harvesting

Several methods of harvesting timber are described in the following sections.

Clearcutting

Clearcutting is a harvesting method in which all the trees in a designated area are cut down. This method is used for forest stands that require complete removal of the overstory because of insects, disease, wind, or poor quality available reserve trees, or because of the regeneration requirements of a particular tree species.

Regeneration of clearcut areas is accomplished through either natural or artificial means. As a general rule, clearcutting is the harvesting method with the lowest logging cost per MBF, the fewest miles of road per MBF, and potentially the most adverse impacts to soil, water, wildlife, and visual resources.

Shelterwood

Shelterwood (reserve or cut tree selections) is a harvesting method in which the old crop (the shelterwood) is removed in two or more successive cuttings between 10 and 20 years apart. This method provides a source of seed and/or protection for the regeneration. The first cutting is usually the seed cutting, though a preparatory cut may proceed it. The last cutting is called the final cut. While this harvesting method does "shelter" the harvest area, the method provides poor control of dwarf mistletoe. This method usually relies on natural regeneration.

Seed Tree

Seed tree (reserve tree selection) is characterized by the removal of all trees in one harvest except for a small number of seed-bearing trees, usually eight to ten trees per acre. The seed trees are harvested when regeneration is established. This harvesting method is inapplicable in areas of high winds because the majority of the remaining seed trees would blow over within several years. This method relies on natural regeneration.

Tree Selection

In tree selection, trees within a particular stand are individually marked and harvested. The selection criteria can be based on size, species, or tree condition. Regeneration may or may not be desired after the harvest. If regeneration is desired, it is accomplished by natural means. Tree selection can be used for tree species that do not require abundant sunlight to grow. This generally is the most expensive harvesting method to prepare for and to carry out, and it requires the most road mileage per MBF harvested. It may be the harvesting method with the fewest environmental impacts.

Group Selection

Group selection is a harvesting method in which the trees are removed in small groups. The result is openings of not more than an acre or two. This harvesting method can be considered a very small clearcut. Regeneration is usually accomplished by natural means, but artificial methods can be used.

Sanitation

Sanitation is a harvesting method characterized by the removal of the dead, damaged, or susceptible trees to prevent the spread of insects or disease. Regeneration may or may not be desired, but if desired, it can be achieved by natural or artificial means.

Slash Disposal and Site Preparation

Slash is the tops, limbs, and other unusable portions of trees left in an area after harvesting. In some logging operations, this slash may contain firewood, poles, or other products.

Site preparation is the work required to adequately prepare an area for regeneration. It usually involves some sort of slash treatment. The extent of this work depends on individual species and site requirements.

While the terms *slash disposal* and *site preparation* have similar meanings, they cannot be used interchangeably. For example, individual trees may have been harvested in an area, but regeneration may not be desired. In such a case, some slash disposal or treatment might be done, but because regeneration is not desired, no site preparation would be done.

Several methods of slash treatment are described in the following sections.

Lop and Scatter

Lop and scatter is a slash treatment method in which the tops and large branches of trees are cut so that the slash will be at a predetermined height off the ground. This method is used in areas where the amount of slash is light. This method improves wildlife accessibility, reduces effects on visual resources, allows the cones to be closer to the ground (important for lodgepole pine's serotinous cones), and speeds up the slash decomposition process. This is also the cheapest method if slash accumulations are small.

Pile and Burn

The pile and burn method of slash treatment is used for tree species that need an exposed mineral soil seedbed for successful seed germination. Lodgepole pine in this area needs such a seedbed because the duff layer (a mat of decomposing needles or leaves and small twigs) on the soil surface dries out faster than the mineral soil, causing unfavorable conditions for seed germination. Consequently, successful regeneration of lodgepole pine requires a scarified site. This can be accomplished by pushing the slash into piles with a bulldozer, which removes the duff layer and exposes mineral soil. As a general rule-of-thumb, about 30% of the material (slash) is left unpiled to provide for some site protection. The slash piles are burned later, usually in the winter when a protective layer of snow allows safe burning.

Rollerchop

The rollerchop method of slash treatment involves the use of a large metal drum filled with water and equipped with protruding stubs. The roller is pulled over the logging slash by a bulldozer. This exposes mineral soil, preparing the site adequately for lodgepole pine seed germination. The rollerchop method can be substituted for the pile and burn technique. The major limitations of this method are that large stem diameter slash is difficult to treat and that the specialized, expensive equipment is not readily available.

Broadcast Burn

In the broadcast burn method of slash disposal, a ground fire is used to burn the slash that is left in place after logging. The fire removes the undesirable duff layer, exposing the mineral soil. The rate of nutrient cycling is increased. Broadcast burning may destroy the seed on the site, so another seed source must be provided for in natural regeneration-usually seed blown in from adjacent trees. This method is best suited to areas that will be artificially regenerated or areas of aspen.

Allowable Harvest Level

The planning area's allowable harvest level has been calculated three times, in 1964, 1974, and 1984. The 1964 and 1974 calculations used extensive inventories, while the 1984 recalculation used the intensive inventory that was completed in 1981.

Details on the methodology used in the 1984 recalculation are available in a Rawlins District memorandum dated February 6, 1984. A general summary of this recalculation is as follows: The operations inventory system used was USFS Stage II; the computer program used was USFS Linear Program FORPLAN; 26,175 acres were involved; and the long-term sustained yield capacity is 26 MMBF per decade.

The 1984 recalculation was used in developing Alternatives C and D for this RMP/EIS. The allowable harvest level under these alternatives was determined after multiple-use concerns on the long-term sustained yield capacity were added. The significant increase in the allowable harvest level from the 1974 calculation to the 1984 recalculation (from 1.25 MMBF per year to 2.0 MMBF per year) is due to the following factors:

> Growth and yield projections for future stands have increased for a given site index because of improved data.
>
> The intensive Stage II inventory gave more site-specific information on the forest stands, conditions, and growth potential.
>
> The policy on harvesting restrictions has been changed, allowing more land to be harvested (about 2,000 acres were added to the nonrestricted category).
>
> A more accurate acreage determination was made.

Management Direction for Forestland

Forestland is categorized as lands available for intensive management of forest products, lands available for restricted management of forest products, lands where forests are managed to enhance other uses, and forestlands not available for management of forest products. These categories are described in the following sections.

Intensive Management

Lands available for intensive management of forest products are areas where forest management is one of many uses, but where other uses or resource values are not emphasized. These lands are managed to achieve a highly productive forest by implementing activities to enhance tree growth and health. Timber sales are concentrated in these areas.

Priorities for management activities would be based on site quality, insect and disease problems, growth stagnation, and/or benefit/cost analyses. Impacts on other resources would be mitigated during the EA process or during project layout. Lands placed under this category are commercial forestlands that have the fewest conflicts with other resources.

Restricted Management

Lands available for restricted management of forest products are areas where other uses or resource values are emphasized and limited forest management activities are allowed.Timber is harvested in such lands, but practices such as clearcutting are restricted.

The forestlands available for restricted management would be managed for wood fiber production, but restrictions would be placed on the harvesting. Lands in this category are commercial forestlands within 100 feet of a riparian area and commercial forestland on slopes of more than 45%. Clearcutting would not be permitted within the 100-foot riparian buffer. Specific management practices also would be carried out on forestlands with more than 45% slope. Other potential impacts would be mitigated during the EA process or during project layout.

Enhancing Other Uses

Lands where the forests are managed to enhance other uses are areas where forest management is tailored to benefit other identified resource values or uses. Such management is practiced on the woodland acreage in the planning area, which contains aspen and other noncommercial species. Forest management activities such as low volume wood product sales would be carried out on these lands to a limited degree. Sales would be to benefit other resources or to respond to requests from the public, usually for firewood, corral poles, fence posts, Christmas trees, and wildlings.

The forestland could be manipulated for the benefit of other resources. For example, aspen stands could be eradicated because of their decadent condition to allow for a new stand to provide browse for big game.

Not Available for Forest Management

Forestlands not available for management of forest products are areas of commercial forestlands that have been withdrawn from the allowable harvest level base. Forest management is excluded because such lands have been determined to have other resource values of importance on which severe impacts would result from forest management activities. This includes areas withdrawn or permanently set aside by legal mandates, such as congressionally designated wilderness areas or wild and scenic rivers.

Standard Operating Procedures

Identification of Harvest Areas

Specific forest stands are identified for timber harvesting on the basis of that particular area's need for management. High priority areas for harvesting are characterized by having mature timber, insect and/or disease activity, or stagnated growth conditions.

A five-year timber sale plan is developed to establish the schedule of timber harvesting in the planning area. While the five-year plan is revised annually to account for changing situations, there is usually a minimum of two years between a particular timber sale identification and the actual selling of the timber.

Environmental Assessments

Environmental assessments (EAs) are prepared for each timber sale by an interdisciplinary team. Potential adverse impacts on soils, water, air, wildlife, range, and recreation are analyzed. The general locations of roads and the harvest units are determined at this time.

Project Design Features

Project design features are specific measures developed during the EA stage by the interdisciplinary team to minimize adverse impacts on the environment. Frequently used project design features are described below:

A proposed timber sale would meet visual resource management requirements for the area.

Before the advertisement of a timber sale contract, all consultation required under 36 CFR 63 and 36 CFR 800 would be conducted to obtain clearance for cultural resources.

Before the advertisement of a timber sale contract, a records search for existing mining claims would be conducted to ensure that the valid rights of claimants are protected.

The timber sale would be designed to facilitate the protection of high-interest wildlife species and to maintain or improve high-priority wildlife habitat. This could be accomplished through the following measures:

Snags would be reserved for wildlife habitat if they fit the criterion of high value wildlife trees.

Seasonal restrictions would be placed on harvesting activity under the following conditions:

a. When the access route and/or the sale area are included in any big game crucial winter range (December 1 to April 30). This restriction could be waived during mild winters. In this event, the BLM would carry out a multiple-resource evaluation, including consultation with the WGFD to determine the severity of impacts on the wintering population.

b. When the sale area is included in an identified big game parturition (birthing) area (May 10 to June 15).

Roads constructed for timber harvesting would be closed at the end of the logging operations. Exceptions would be made if other resource programs such as recreation or fire management identified the need for a particular road to remain open. The decision about the future of a particular road would be made during preparation of the EA.

Riparian areas would be protected during timber harvesting by the following practices:

a. No waste material from road building would be deposited below the high water line of a riparian area.

b. A buffer zone would be established and maintained between riparian areas and clearcut harvest unit boundaries. The size of this buffer zone would be a minimum of 100 feet perpendicular from the normal waterline to the clearcut edge. This distance might increase if specific conditions warranted a larger zone. In addition, no landings or log decks would be allowed in the buffer zone. Skidding would be permitted only in specific circumstances.

c. Some timber would be harvested in the buffer zone. A maximum of 20% of the trees would be removed during any one harvest entry unless a higher percentage was prescribed for improving wildlife habitat. This harvesting would be done in such a manner as to prevent unnecessary degradation of the riparian area.

An active raptor nest is one that is known to have been used by nesting raptors in at least one of three preceding years or is in such condition that prior use by raptors can be verified and little or no repair would be required for its subsequent use for nesting. The following limitations would be placed on harvesting to protect habitat for raptors:

a. No activities would be carried out within 1 mile of an active bald eagle or peregrine falcon nest or within line-of-sight from February 1 through July 31 if the activity would result in nesting failure or abandonment.

b. No activities would be permitted within ½ mile of an active bald eagle or peregrine falcon nest at any time if the activity would disturb adult birds on the nest.

c. No activities would be permitted within 1 mile of an active bald eagle winter roost site from November 1 through March 31 if the activity would reduce use of roost.

d. No activities would be permitted within ½ mile of an active golden eagle nest from February 1 through July 31 if the activity would cause nest failure or abandonment.

e. No activities would be permitted within ¼ mile of any active ferruginous hawk, Swainson's hawk, red-tailed hawk, Cooper's hawk, goshawk, osprey, or prairie falcon nests from March 1 through July 31 if nest failure or abandonment would result from such activities. Site by site management prescriptions would be prepared for nest sites of accipiters such as goshawks, Cooper's hawks, or sharp-shinned hawks.

f. No activities would be permitted within 300 feet of any active raptor nest at any time if such activity would cause nest abandonment, unless specific practices could maintain or increase nesting elsewhere. (This does not apply to existing occupancy.)

g. New roads or other new developments should be out of sight of existing raptor nests if possible. This is required for threatened or endangered nesting species such as bald eagles and peregrine falcons.

Monitoring

A typical monitoring sequence for a stand begins with a survey one year after harvesting. Additional surveys are made at three and five years to determine if the new stand meets the BLM stocking standards. Surveys also are made at age 20 to establish need for precommercial thinning, at age 40 to 60 to determine suitability for commercial thinning, and at age 80 to 100 to prepare a plan for harvest.

AGE CLASS DISTRIBUTION

Definition

The term *age class distribution* is used in description of the condition of a forest. Simply defined, it is the breakdown of the ages of all the trees represented in the forest. Age class distribution is a representation of the individual trees in a stand, if the stand is uneven-aged. If the stands are even-aged, it is a representation of individual stands in a forested area.

Even-aged stands occur when the difference in age between the trees forming the main canopy level does not exceed 20% of the age of the stand. Uneven-aged stands have a wide variety of ages.

Whether a stand is even-aged or uneven-aged depends primarily on the tree species and on how the stand originally developed. Lodgepole pine usually develops into even-aged stands. The other commercial species can develop into either even-aged or uneven-aged stands, but they usually develop into uneven-aged stands.

Importance

Tree age is an extremely important factor in forest management. Treatment priorities often are determined from the age of a particular tree species. For example, lodgepole pine is characteristically a fast-growing tree until it reaches maturity. In comparison with other coniferous species in the Rocky Mountain region, this species reaches maturity at a fairly early age (around 80 to 100 years). Because of these growth traits, a manager would not thin a lodgepole pine stand that is 150 years old for increased growth response, since the age factor would prevent the response.

In contrast, ponderosa pine usually does not reach maturity until it is more than 200 years old; therefore, a ponderosa pine stand 150 years old would have the potential to respond to a thinning. Other factors such as site quality, insect or disease problems, or other multiple-use objectives play a part in determination of treatment priorities, but the age factor must be considered.

Effective forest management requires long-range planning. Information on how the different age classes are distributed or represented in a given forested area allows a manager to anticipate, and plan for, future treatment needs. A balanced age class distribution, where all ages are equally represented in a forest, is desired because when a stand increases in age and approaches maturity and harvest, a replacement stand can be provided for.

Lodgepole Pine Planning in This Document

One focus of the analysis of environmental consequences in this RMP/EIS is the change in age class distribution for lodgepole pine. This subject is emphasized because age distribution is a major factor in the current and future health of the lodgepole.

The balanced acreage for lodgepole was calculated by dividing the total lodgepole acreage (approximately 19,000 acres) by the rotation age for lodgepole (100 years). The result, 190 acres, represents the acreage that would be any one age if a balanced age class distribution is achieved.

Theoretically, achieving and maintaining a balanced age class distribution for lodgepole pine in the planning area would involve harvesting 190 acres each year in perpetuity. However, modifications to the premise of balanced age class distribution are necessary.

Along with maintaining a healthy forest, another major goal of a forest management program is to provide an even flow of wood products over time; therefore, volume, not acreage, is a primary consideration. Because of the variations in volume per acre among different lodgepole pine stands, it can be assumed that the acreage harvested will vary from year to year. Economic considerations also are a factor, so there may be no harvesting in one year and a harvest of twice the theoretical acreage in another. This would result in slight fluctuations in the balance of age class distribution.

Managers can make modifications to achieve a somewhat balanced age class distribution while considering economic factors and the volume of wood products needed. One possible modification is lumping the lodgepole into major categories–the 0- to 10-year age group represents the reforestation/seedling stage; the 10- to 40-year age group represents the seedling/sapling stage; the 40- to 70-year age group represents the poletimber stage, and the 70-year plus age group represents the sawtimber stage. Because lodgepole pine is managed on a 100-year rotation, each year represents 1% of the total base. Therefore, the desired balanced age class distribution for lodgepole pine in this planning area is as follows:

0-10 years old = 10% of base acreage
10-40 years old = 30% of base acreage
40-70 years old = 30% of base acreage
70 years old or more = 30% of base acreage

MAJOR TREE SPECIES

Major tree species in the planning area are listed on table FOR-AP-3.

TABLE FOR-AP-3

MAJOR TREE SPECIES IN THE PLANNING AREA

Common Name	Scientific Name
Lodgepole pine	*Pinus contorta,* Dougl.
Engelmann spruce	*Picea engelmanii,* Parry
Subalpine fir	*Abies lasiocarpa* (Hook.) Nutt.
Ponderosa pine	*Pinus ponderosa,* Laws.
Douglas-fir	*Pseudotsuga menziesii* var. glauca, (Beissn.) Franco
Quaking aspen	*Populus tremuloides,* Michx.
Limber pine	*Pinus flexilis,* James
Rocky Mountain Juniper	*Juniperus scopulorum,* Sarg.

LANDS APPENDIX

STANDARD OPERATING PROCEDURES

Rights-of-Way and R&PP Leases/Sales

Applications for use of the public lands for a right-of-way grant, a highway easement deed, or an R&PP lease/sale will continue to be approved or disapproved case by case under the Federal Land Policy and Management Act of 1976, as amended, the Mineral Leasing Act of 1920, as amended, (MLA), the Recreation and Public Purposes Act of 1926, as amended (R&PP), and the Federal Aid Highway Act of 1958, as amended.

Under the R&PP Act, state, county, and municipal governments as well as qualified nonprofit corporations will have the opportunity to obtain public lands for definitely proposed projects for which there are a reasonable time schedule and a comprehensive development and management plan.

Applications would be accompanied by a complete plan of development as described in the BLM Manual, sections H-2801-1, 2912, and 2740. After an interdisciplinary review of each proposal, stipulations to protect important surface values will be employed.

Landownership Adjustments

Introduction

Specific parcels of public land are considered for disposal in this RMP/EIS under the authority of FLPMA. The BLM would conduct an environmental analysis on any lands considered for disposal. This environmental analysis would include a cultural inventory, a mineral report, a land report, a biological assessment, and any other documentation necessary to make an informed decision on whether the land should be disposed of.

The lands would not be disposed of if the environmental analysis showed that disposal would not be appropriate because of important natural, cultural, or mineral resources. The analysis would assess whether the lands could be sold by direct sale, modified competitive sale, or competitive sale, depending on which method would best meet the public need.

Criteria for Disposals

Lands that are found to meet one or more of the following criteria would not be disposed of.

> Lands with a specific management plan or activity plan that precludes their disposal.
>
> Lands that contain high value wildlife, recreation, or other resource values, have overriding public values, or represent substantial public investments. (An exception could be made in special cases where adverse effects could be mitigated at reasonable cost or the new owner wanted to manage the land in accordance with its resource value; for example, an isolated national natural landmark might be disposed to the Wyoming Department of State Archives, Museums, and History for use as an interpretive site and state park or monument. The exception could be applied for a nonprofit or public organization.)
>
> Lands designated as national environmental assets such as national conservation areas, national historic trails, natural areas, natural research areas, areas containing cultural sites of National Register quality, high-value natural history sites, or congressionally designated areas.
>
> Lands in large, manageable, and reasonably well "blocked" parcels.
>
> Lands where BLM management would best serve the needs and interests of the public.

Sales

Any lands specifically identified for sale through this document would be offered for sale through one of the following three methods.

Noncompetitive Direct Sale

If the sale parcel is isolated by the property of a single landowner, the tract generally will be offered to that landowner at the appraised fair market value without any type of competition. This type of sale normally would be used for parcels without public access and not near an urban area or near an area with rapidly increasing land values. This approach would minimize impacts to present users and owners of adjacent property, and it would reduce the necessity for county governments to mediate public access. This method also would be used for disposing of landfill sites and produced water pits originally authorized under R&PP or rights-of-way.

Modified Competitive Sale

If the parcel is isolated and surrounded by the adjoining land of two or more landowners, the parcel generally will be offered to all owners of adjoining property at the appraised fair market value under a modified competitive sealed bid process. Under this approach, the high bidder would be the successful bidder. If the owners of adjoining land did not bid on the property, the land would be reoffered for sale, and no preference right would be provided on the reoffered sale.

Competitive Bidding

If there are no overriding reasons for modifying competition or for direct sale, the land must be offered through competitive bidding. Public access or the lack of public access is an important factor in determining proper bidding procedures. The presence of public access normally would override the other two types of sales, and parcels with public access over a city, county, state, or federal highway or other type of public access route normally would be sold by competitive procedures.

Exchanges

The BLM recognizes that numerous opportunities exist for public interest land exchanges with the nonfederal sector. Exchanges of BLM-administered public land other than the parcels specifically identified in this document may be considered and allowed case by case. The BLM has a responsibility to work closely with other federal resource management agencies, state and local governments, and the private sector to complete these mutually beneficial transactions. Benefits to be derived for the federal and nonfederal sectors include elimination of inholdings, achievement of better management areas, and greater economic returns for all concerned.

Policy on Disposal of Minerals

Disposal of minerals in conjunction with disposal of surface will be conducted in accordance with policy and guidance in effect at the time of the disposal action.

Generally, a mining claim of record under section 314 of FLPMA prevents an exchange or sale. Experience has revealed that, under certain circumstances, it may be appropriate to dispose of land and minerals under sections 203, 206, and 209 of FLPMA, subject to existing mining claims.

It is the policy of the BLM to avoid splitting ownership of surface and mineral estates. If there are "known mineral values," as defined in 43 CFR 2720.0-5, and the land is under mining claim, the surface should be retained in federal ownership or the mining claim(s) examined for validity and contested if appropriate, if there is compelling public interest to do so.

All minerals must be reserved if the federal lands are conveyed out of federal ownership pursuant to FLPMA disposal authority, except in the limited instances that follow:

Sales

1. If the public lands proposed for sale are determined to have "known values" for locatable, leasable, or salable minerals, one of the following courses of action may be taken:
   a. Reject the offer to purchase or cancel the offer of sale.
   b. Dispose of the surface estate and reserve all of the mineral interests to the United States.
   c. Dispose of the surface estate and convey all or less than all of the mineral interests under the terms set forth in section 209(b) of FLPMA.
2. If the lands have no "known mineral values," the mineral interests will be disposed of simultaneously with the disposal of the surface estate under authority of section 209(b) of FLPMA.

Exchanges

1. Public lands that do not have "known mineral values" may be offered in exchange without any mineral reservation. This will apply whether or not the nonfederal party in an exchange controls the minerals under his or her land.
2. If the public lands have some potential for mineral development, reserving the mineral interests is not mandatory so long as the values can be equalized by the payment of money and so long as the payment does not exceed 25% of the total value of the land.

   In any case, normally it is desirable to keep surface and mineral ownership together in an exchange, whenever possible, to eliminate future problems associated with split estate ownership.
3. If the public lands in an exchange are determined to have "known mineral values" for locatable, leasable, or salable minerals, it may be in the public interest to cancel the offer, depending on the significance of the deposits. The leasable minerals alone can be reserved if significant.

WITHDRAWALS AND CLASSIFICATIONS

Withdrawals and classifications listed on table LAN-AP-1 would be reviewed individually to determine which should be revoked, which should be continued, and which should be modified as required by section 204 of FLPMA. Table LAN-AP-1 also lists which withdrawals would be continued, modified, revoked, or newly established under each alternative. Recommendations made previously on some withdrawals are listed on table 5 in chapter 3.

Table LAN-AP-2 lists withdrawals on which recommendations have been made and the identified land management conflicts associated with each withdrawal. Withdrawals not listed on table LAN-AP-2 are pending review.

Figure LANDS-AP-1 shows the percentage of the planning area covered by withdrawals.

TABLE LAN-AP-1
WITHDRAWAL SUMMARY

		Alternative A			Alternative B			Alternative C			Alternative D		
Type of Withdrawal	Acreage Originally Withdrawn	For New Withdrawal	Continue to Withdraw	Revoke Existing Withdrawal	For New Withdrawal	Continue to Withdraw	Revoke Existing Withdrawal	For New Withdrawal	Continue to Withdraw	Revoke Existing Withdrawal	For New Withdrawal	Continue to Withdraw	Revoke Existing Withdrawal
Existing Mineral Withdrawals[1]													
Stratton hydrology	2,694	0	2,694	0	0	2,694	0	0	2,694	0	0	2,694	0
R&PP classifications													
—held by lessee	1,144	0	1,144	0	0	1,144	0	0	1,144	0	0	1,144	0
—classified only	4,197	0	4,197	0	0	4,197	0	0	0	4,197	0	0	4,197
Administrative sites (BLM)	93	0	93	0	0	93	0	0	6	87	0	6	87
Administrative sites (FS)[2]	720	0	720	0	0	720	0	0	0	720	0	0	720
Reclamation (BuRec)[2]	73,290	0	73,290	0	0	73,290	0	0	73,290	0	0	73,290	0
Wildlife refuges (FWS)	3,915	0	3,915	0	0	3,915	0	0	3,915	0	0	3,915	0
Air navigation sites (FAA)	440	0	440	0	0	440	0	0	440	0	0	440	0
Public water reserves[2] [3]	41,245	0	41,245	0	0	41,245	0	0	0	31,738	0	0	31,738
C&MU classification[4]	3,916	0	3,916	0	0	3,916	0	0	0	3,916	0	0	3,916
Small tract	15	0	15	0	0	15	0	0	0	15	0	0	15
Oil shale	564,758	0	564,758	0	0	564,758	0	0	0	564,758	0	0	564,758
Coal classifications	671,768	0	671,768	0	0	671,768	0	0	0	671,768	0	0	671,768
Coal withdrawals	610,170	0	610,170	0	0	610,170	0	0	0	610,170	0	0	610,170
New Mineral Withdrawals[1]													
Encampment campground	0	0	0	0	10	0	0	0	0	0	10	0	0
Corral Creek campground[5]	0	0	0	0	0	0	0	0	0	0	20	0	0
Bennett Peak campground	0	0	0	0	1,550	0	0	0	0	0	20	0	0
Teton Reservoir campground[5]	0	0	0	0	0	0	0	0	0	0	160	0	0
Pryor Flats campground[5]	0	0	0	0	0	0	0	0	0	0	40	0	0
Dugway Recreation site[6]	0	0	0	0	0	0	0	0	0	0	320	0	0
Nine-Mile campground[6]	0	0	0	0	0	0	0	0	0	0	40	0	0
Como Bluff paleontological site[6]	0	0	0	0	2,720	0	0	0	0	0	0	0	0

TABLE LAN-AP-1 (Continued)

WITHDRAWAL SUMMARY

Type of Withdrawal	Acreage Originally Withdrawn	Alternative A			Alternative B			Alternative C			Alternative D		
		For New Withdrawal	Continue to Withdraw	Revoke Existing Withdrawal	For New Withdrawal	Continue to Withdraw	Revoke Existing Withdrawal	For New Withdrawal	Continue to Withdraw	Revoke Existing Withdrawal	For New Withdrawal	Continue to Withdraw	Revoke Existing Withdrawal
Cherokee, Overland, and Rawlins-Fort Washakie historic trails	0	0	0	0	11,000	0	0	0	0	0	0	0	0
Fort Washakie stage station	0	0	0	0	0	0	0	0	0	0	640	0	0
Overland trail	0	0	0	0	0	0	0	0	0	0	680	0	0
Big Creek proposed campground	0	0	0	0	800	0	0	0	0	0	5	0	0
Prospect Creek proposed campground	0	0	0	0	5	0	0	0	0	0	5	0	0
Jelm Mountain proposed campground	0	0	0	0	10	0	0	0	0	0	10	0	0
Battle Mountain proposed campground	0	0	0	0	40	0	0	0	0	0	40	0	0
Shirley Mountain proposed campground[5]	0	0	0	0	0	0	0	0	0	0	20	0	0
Existing Land Withdrawals[7]													
Power sites (GS)	5,150	0	5,150	0	0	5,150	0	0	5,150	0	0	5,150	0
Stock driveways	263,258	0	263,258	0	0	263,258	0	0	193,983	69,275	0	193,983	69,275
Public water reserves[3]	0	0	0	0	0	0	0	4,850	9,507	0	4,850	9,507	0
C&MU classification[4]	3,641,500	0	3,641,500	0	0	3,641,500	0	0	0	3,641,500	0	0	3,641,500
Totals	**3,651,000**	**0**	**3,651,000**	**0**	**16,135**	**3,651,000**	**0**	**4,850**	**290,000**	**3,646,000**	**6,860**	**290,000**	**3,646,000**

ABBREVIATIONS: BLM = Bureau of Land Management, U.S. Department of the Interior; BuRec = Bureau of Reclamation, U.S. Department of the Interior; FAA = Federal Aviation Administration; FS = Forest Service, U.S. Department of Agriculture; FWS = Fish and Wildlife Service, U.S. Department of the Interior; GS = Geological Survey, U.S. Department of the Interior.

[1] These withdrawals would segregate the land against operation of the public land laws, including the 1872 General Mining Law.

[2] These withdrawals are scheduled for future review. The recommendations from the reviews will be arrived at on a case-specific basis and may differ slightly from those reflected in this table. It is possible that portions of the Bureau of Reclamation withdrawals may be revoked, returning the lands to the jurisdiction of BLM.

TABLE LAN-AP-1 (Continued)

WITHDRAWAL SUMMARY

[3] The original public water reserve withdrawals segregated against the location of nonmetalliferous minerals only. Withdrawal review reports completed in 1982 revealed that this segregation is unnecessary to protect the water sources. Public Water Reserve 107 also said that all water sources existing on the date of the withdrawal order were protected and withdrawn even if they were not noted to the official records. Therefore, under Alternatives C and D, 4,850 acres of unrecorded water sources and 9,507 acres of recorded public water reserves are shown under "Lands Withdrawals."

Public water reserves withdrawn under Secretarial Order 107 and other classification orders would be reviewed to determine if they meet the retention requirements of legal opinions of the solicitor of the Department of the Interior and of the agreement made between the state of Wyoming and the Department of Justice (for the Department of the Interior) regarding the adjudication of water rights. Withdrawals would be terminated on public water reserves that do not meet retention requirements.

[4] The Classification and Multiple Use Act of 1964 mandated that the BLM consider classifying lands for disposal and for multiple use management. Within the lands classified for multiple use, areas could be further protected by segregation against mineral entry. A notice of classification in the *Federal Register* of November 8, 1967, classified 3,650,000 acres in the planning area for retention and multiple use management. Of this total, 3,916 acres of high value recreation land were segregated from mineral entry. These areas are listed under "C&MU" in the Alternative A and Alternative B columns for "Existing Mineral Withdrawals."

Under Alternative C, the C&MU classification would be removed in its entirety. Since Alternative D would adopt the Alternative C provision to revoke the C&MU classification, some of the recreation sites that had C&MU protection (see footnote 5) under Alternative B would need to be protected by withdrawals under Alternative D. Therefore, new withdrawal proposals (not previously presented) appear under Alternative D.

[5] These areas are protected under the C&MU classification under "Existing Mineral Withdrawals" for Alternatives A and B.

[6] Includes 960 acres of private surface/federal minerals (Alternative B).

[7] These withdrawals would segregate the land against operation of the public land laws but not the 1872 General Mining Law.

[8] These totals are approximate. Many of the withdrawals overlap one another. See map 21 for lands where withdrawals occur under Alternative A and map 12 for lands where withdrawals occur under Alternative D.

TABLE LAN-AP-2

SUMMARY OF WITHDRAWAL IMPLICATIONS TO LAND MANAGEMENT

Withdrawal or Classification	Segregative Effect	Discusion	Problem
Public water reserve withdrawals	Prohibits disposal, agricultural entry, or nonmetalliferous mineral entry. Protects water sources.	Very few water sources in the planning area are present in the same vicinity as economic nonmetalliferous locatable minerals. Water sources can be adequately protected through 43 CFR 3809 and Executive Orders 11988 and 11990. A number of public water reserve withdrawals have been placed on land where no water source exists.	Constrains mineral exploration/development and other land uses. Segregative effect reduces management flexibility. Protects water sources that do not exist on 31,738 acres.
Administrative site withdrawals	Prohibits disposal, agricultural entry, and mineral entry.	Most administrative site areas do not have economic locatable mineral resources or costly improvements. Except for the Rawlins District office, existing improvements could be adequately protected by right-of-way and through use of 43 CFR 3809.	Constrains mineral exploration/development and other land uses. Segregative effect reduces management flexibility.
Air navigation site withdrawals	Prohibits disposal, agricultural entry, and mineral entry.	No known economic locatable minerals exist on these sites. Sites could be adequately protected by right-of-way or through use of 43 CFR 3809; however, FAA guidance requires retention rather than right-of-way.	Constrains mineral exploration/development and other uses. Segregative effect reduces management flexibility.
Small tracts classification	Prohibits disposal, agricultural entry, and mineral entry.	Small Tract Act was repealed by FLPMA.	Constrains mineral exploration/development and other land uses, especially since no leases or disposals can be completed under the Small Tract Act.
R&PP classifications (not leased)	Prohibits disposal, agricultural entry, and mineral entry.	No R&PP applications have been received or are expected on these sites. Lands can be reclassified if necessary.	Constrains mineral exploration/development and other land uses, especially when no R&PP has been proposed.

TABLE LAN-AP-2 (Continued)

SUMMARY OF WITHDRAWAL IMPLICATIONS TO LAND MANAGEMENT

Withdrawal or Classification	Segregative Effect	Discusion	Problem
Oil shale withdrawal	Prohibits disposal, agricultural entry, and mineral entry.	Established to protect valuable oil shale lands from mineral entry. Placed in effect prior to the Mineral Leasing Act.	Constrains mineral exploration/development and other land uses. Places protections on the land that are now accomplished by the Mineral Leasing Act.
Coal classifications and withdrawals	Prohibits nonmetalliferous mineral entry.	Established to protect important coal lands from coal entries. Placed in effect prior to the passage of the Mineral Leasing Act.	Constrains mineral exploration/development and other land uses. Places protections on the land that are now accomplished by the Mineral Leasing Act.
Classification and Multiple Use	Prohibits disposal and agricultural entry. A total of 3,916 acres further segregated from mineral entry.	Established to classify lands for retention and management or for disposal.	Constrains land use. Places protection on the lands that are now accomplished by FLPMA.
Stock driveway withdrawal	Prohibits disposal and agricultural entry. Limits mineral entry. Protects water sources.	Established to protect stock trails.	Of the 263,258 acres withdrawn, only 193,983 acres are currently being used for trailing purposes. The withdrawal constrains land uses for the remaining 69,275 acres, which are not being used for trailing.

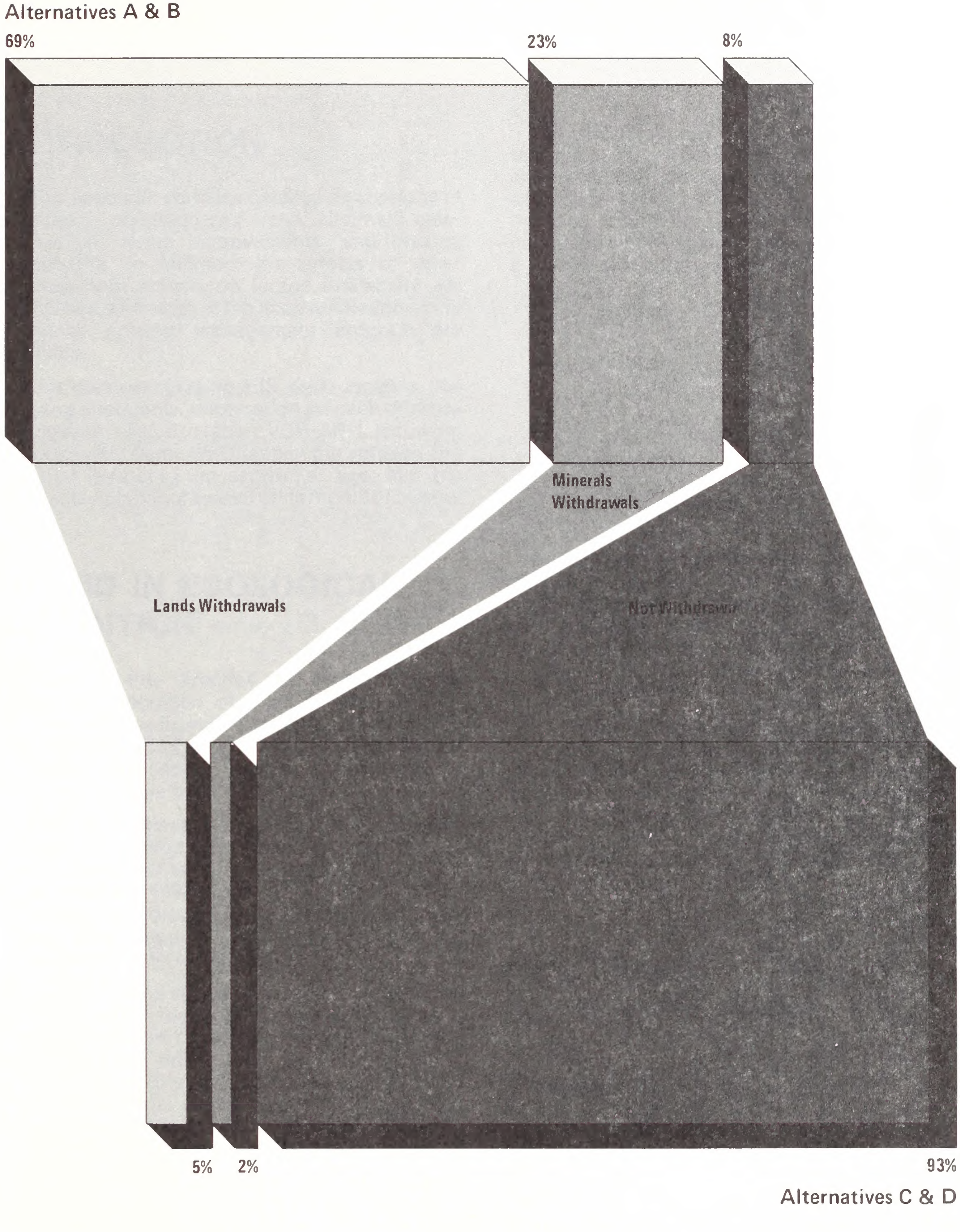

Figure LAN–AP–1
WITHDRAWALS IN THE PLANNING AREA

LIVESTOCK GRAZING APPENDIX

INTRODUCTION

This appendix contains detailed discussions of ecological condition and trend, allotment categorization, range improvements, and grazing treatments. In addition, the effects of other management actions on forage availability are discussed, and steps in the implementation of the livestock grazing management program are outlined.

The livestock grazing EIS area contains 354 grazing allotments. Information on each of those allotments is listed in table LVGR-AP-1, including the allotment name and number, the acreage, the kind of livestock, the season of use, and the available number of animal units months (AUMs).

TREND IN ECOLOGICAL CONDITION

Trend is the direction of change in the ecological condition of a range site, whether toward or away from its potential, or stable. The methodology used to estimate trend in ecological condition (as shown in table LVGR AP-2) is described in this section.

For an estimate of trend, two separate rangeland inventories were compared for 63 grazing allotments. The acreage by condition class from the 1962 Missouri River Basin (MRB) inventory was compared with the 1986 Ecological Range Site Inventory (ERSI) conducted by the Medicine Bow Resource Area.

Four condition classes are used to express the degree to which the production or composition of the present plant community reflects that of the potential plant community. *Excellent* condition indicates that 76% to 100% of the present plant community is the same species composition as found in the climax community; *good,* 51% to 75%; *fair,* 26% to 50%; and *poor,* 0% to 25%.

Acreages in each condition class were multiplied by the mean factor for each condition class. The mean factor is the midpoint for each class; that is, for excellent, 88.5%; for good, 63.5%; for fair, 38.5%, and for poor, 12.5%.

Only the acreage of BLM-managed public land was tabulated. The following example is for allotment 0318 based on ERSI data. The federal acreage in each condition class was divided by the total federal acreage in the allotment, then multiplied by the mean for that condition class for a percentage figure, as follows:

Excellent: $\frac{474}{7,085} \times 88.5 = 6\%$

Good: $\frac{5,397}{7,085} \times 63.5 = 48\%$

Fair: $\frac{1,133}{7,085} \times 38.5 = 6\%$

Poor: $\frac{80}{7,085} \times 12.5 = 1\%$

After the normalized condition class index was calculated for each condition, the normalized condition class indexes were added together. The sum equals the overall condition class index for all federal acreage in an allotment. The total normalized condition class index for public land in allotment 0318 is 61%.

To arrive at the present apparent trend, the normalized condition class index for the MRB inventory was compared with the normalized condition class for the ERSI. For the allotment used as an example above, MRB data showed a condition class of 57%, compared with a condition class index for ERSI data of 61%. This indicates an improving trend.

ALLOTMENT CATEGORIZATION

Procedure

Specific criteria were developed to evaluate the management situation for each allotment and to identify allotments for which a change in present grazing management will be needed so that conflicts in the use of the rangeland resource can be resolved. Criteria used were the present condition of the resource, its potential to respond

TABLE LVGR AP-1

LIVESTOCK GRAZING ALLOTMENT INFORMATION

Allotment									
Number	Name	Public Land (acreage)	Allotment Category M, I, C[1]	Number of Operators	Livestock Kind[2]	Season of Use	Active Preference (AUMs)[3]	Average Five-Year Licensed Use	Current Production (AUMs)[4]
0003	Bates Creek[9]	3,357	I	1	C	06/01-10/30	570	570	532[5]
0040	Marton[9]	4,123	I	1	C,S	07/01-09/30	1,008	1,008	663[5]
0047	Lone Tree[9]	2,000	I	1	C,S	07/15-10/15	504	504	344[5]
0061	Squaw Mountain[9]	280	C	1	C	03/01-02/28	19	19	19
0216	Taylor-Powder Horn[9]	363	C	1	C	07/01-10/09	29	29	33[5]
0261	Gallagher[9]	412	C	1	C,S	03/01-02/28	92	92	92
0289	Horr[9]	343	C	1	C,H	07/01-09/30	76	76	76
0301	Pathfinder[8]	7,571	I	1	C,H	05/01-01/31	931	633	1,068[5]
0302	Little Canyon Creek	1,313	C	1	C	03/01-10/31	165	165	175[5]
0303	Canyon Creek[8]	3,526	I	1	C,H	03/01-02/28	678	509	487[5]
0305	Camp Creek	3,217	C	1	C	06/01-11/30	706	706	447[5]
0306	Kirk Ranch	3,395	I	1	C	05/01-05/15; 11/15-03/06	365	365	391[5]
0307	Bates Hole[8]	12,398	I	1	C	05/01-12/01	1,850	1,832	2,512[5]
0309	Moss Agate	6,355	I	1	S	06/25-09/30	986	406	760[5]
0310	Antelope Springs	2,977	I	1	S	06/11-09/30	577	172	457[5]
0311	Bates Benchmark	4,262	I	1	C	06/01-10/10	611	430	580[5]
0312	7E Ranch	8,845	I	1	C,S	03/20-09/30; 11/01-11/29	1,370	1,159	1,163[5]
0315	Indian Springs	15,543	I	2	C	05/01-10/15	2,306	2,269	2,108[5]
0316	Dry Creek Rim	25,750	M	1	C	03/01-02/29	4,346	2,040	4,294[5]
0317	Upper Dry Creek	4,425	M	1	C	06/01-10/05	608	608	737[5]
0318	Shirley Ridge	7,693	I	1	C,H	03/01-02/29	981	875	1,258[5]
0319	Little Medicine	15,789	I	1	C,S	03/01-02/28	2,898	2,866	2,240[5]
0320	Leo	11,448	I	1	C	03/15-11/15	748	1,813[6]	1,867[5]
0321	Dry Creek	9,861	I	1	C	03/01-02/28	1,213	1,166	1,721[5]
0322	Spring Creek	10,387	M	1	C	05/16-11/09	1,912	1,462	1,985[5]
0323	Black Canyon	14,355	I	1	C	04/26-11/25	2,106	2,086	1,985[5]
0324	Palmer-Nelson	4,241	I	1	C	05/01-10/31	898	695	518[5]
0325	Cady	185	C	1	C	05/01-10/31	20	20	21[5]
0326	Beaver Creek	2,385	I	1	C	06/29-10/10	826	803	414[5]
0327	School Section	816	I	1	C	05/01-12/31	222	222	125[5]
0328	Sullivan	110,695	I	1	C	04/25-11/27	20,618	20,797[6]	16,587[5]
0329	Lost Creek	3,061	I	1	C	05/01-10/15	468	384	468[5]
0330	House Gulch	2,395	I	1	C	05/15-10/15	631	631	503[5]

TABLE LVGR AP-1 (Continued)

LIVESTOCK GRAZING ALLOTMENT INFORMATION

Allotment									
Number	Name	Public Land (acreage)	Allotment Category M, I, C[1]	Number of Operators	Livestock Kind[2]	Season of Use	Active Preference (AUMs)[3]	Average Five-Year Licensed Use	Current Production (AUMs)[4]
0331	Upper Lost Creek	589	I	1	C,H	05/01-01/31	120	52	138[5]
0332	Thornton Place	2,852	I	1	C	06/18-09/23	374	323	378[5]
0333	South Bennett North	4,525	I	2	C,S	05/11-11/30	772	719	1,103[5]
0334	Corral Creek	5,710	I	2	C,S	05/01-11/30	1,181	1,181[7]	1,151[5]
0335	Shirley Mountain	18,308	I	3	C,H,S	05/01-10/31	3,655	2,116	3,265[5]
0336	Mud Springs	1,193	C	1	C	05/01-09/30	466	372	233[5]
0337	Bunker	7,464	I	1	C	05/15-10/31	589	667	1,075[5]
0339	Grasshopper	40	C	1	C	05/01-10/31	10	10	10
0340	Horse Springs	5,228	I	1	C	06/01-10/31	1,056	800	799[5]
0351	Edwards[9]	155	I	1	C	03/01-02/28	16	16	16
0361	Wilson[9]	40	C	1	C	05/01-11/30	8	5	8
0364	Milo[9]	40	C	1	C	03/01-02/28	8	8	8
0399	Peterson[9]	80	C	1	C	03/01-02/28	10	10	10
0452	Strock[9]	280	C	1	C,S	06/01-10/30	70	70	280
0524	Rock Creek[9]	50	C	1	S	06/01-09/30	16	16	10[5]
0801	South Bennett South	2,380	C	2	C,H,S	03/01-02/28	387	387[7]	751[5]
0802	Tennant Place	130	C	1	C	06/01-10/15	18	18	15[5]
0803	Horseshoe Ridge	4,358	C	1	C,S	03/01-02/28	369	369[7]	519[5]
0804	South Austin Creek	1,848	C	1	C,S	03/01-02/28	260	260[7]	262[5]
0805	East Seminoe	1,906	C	1	C	07/05-10/31	168	166	101[5]
0806	Schneider Ridge	2,867	C	1	C	05/01-06/14; 07/16-10/15	212	212	170[5]
0807	East Schneider Ridge	10,206	C	1	C,S	03/01-02/28	1,263	1,263[7]	1,467[5]
0808	T. E. Ranch	1,608	C	1	C	05/01-10/29	268	240	383[5]
0809	Medicine Bow	794	C	1	C	04/01-11/30	181	63	143[5]
0810	RR 30	672	C	1	S	03/01-02/29	72	61	72
0811	Ellis Block	13,521	C	2	C,H,S	04/26-02/28	1,604	938	3,346[5]
0812	Freezeout	520	C	1	C	07/01-11/30	73	73	196[5]
0813	Oil Springs	597	C	1	S	03/01-02/29	45	nonuse	76[5]
0814	T B Flats D.M.	1,000	C	1	C,H	03/01-02/28	162	162	245[5]
0817	Little Medicine Bow	1,160	C	1	C	05/10-11/09	269	270	180

TABLE LVGR AP-1 (Continued)

LIVESTOCK GRAZING ALLOTMENT INFORMATION

Allotment									
Number	Name	Public Land (acreage)	Allotment Category M, I, C[1]	Number of Operators	Livestock Kind[2]	Season of Use	Active Preference (AUMs)[3]	Average Five-Year Licensed Use	Current Production (AUMs)[4]
0818	T B Flats	512	C	1	C	05/01-10/31	60	60	72
0819	North Walcott	31,768	C	2	C,S	03/01-02/29	3,138	2,349	2,374
0820	Quealey Block	26,748	C	1	C,H,S	03/01-02/28	3,848	2,936	4,077
0821	South Seminoe	2,290	C	1	C,S	03/01-02/28	558	558[7]	297
0822	Dana Block North	29,780	C	2	C,H,S	03/01-02/28	4,962	3,759	4,962
0824	North Area	12,605	C	2	C,S	03/01-02/29	2,590	1,699	2,590
0825	Slate Ridge	4,931	C	1	C,H	03/01-02/29	644	715	723[5]
0826	Robbers Roost	4,977	C	1	C,S	04/01-10/31	960	863	712
0827	Pass Creek Ridge	26,308	I	2	C,H	03/01-11/15	3,574	3,048	4,833
0828	Wilson Pasture	320	C	1	C	05/15-10/31	65	64	36
0829	Dana Meadows South	13,864	C	3	C,H,S	05/01-12/10	2,336	2,318	2,252
0830	Chace Block	14,996	C	3	C,S	03/01-02/28	2,147	2,067	1,585
0831	Third Sand Creek	360	C	1	C	05/01-10/13	60	60	81
0832	North Anschutz	17,049	I	2	C	05/01-10/31	2,926	2,064	2,164
0833	East Allen Lake	243	C	1	C	03/01-03/31	7	7	7
0834	Foote Creek Pasture	5,036	C	1	C	05/01-10/31	873	889	883
0836	Pine Ridge	8,223	C	1	C,S	03/01-02/29	1,711	1,597	1,711
0838	South Walcott	2,413	C	1	S	03/01-02/28	323	323[7]	281
0839	Lone Tree	2,559	C	1	C	05/16-10/15	470	470	494
0840	Soil Bank Pasture	160	C	1	C	05/04-07/10	27	27	14
0841	Peterson Ranch	80	C	1	C	04/01-05/06	24	24	14
0842	Wolfe	280	C	1	C	05/01-10/31	48	48	19
0843	Meads	640	C	1	C	05/18-06/18	120	120	63
0844	Pass Creek Flats	4,208	C	2	C	05/01-11/07	413	382	465
0845	T. A. Ranch	2,943	C	1	C	05/10-06/25	338	338	381
0846	Coyote Ditch	80	C	1	C	11/01-11/19	12	12	14
0847	Home Pasture	80	C	1	C	05/12-08/31	13	10	14
0848	Rattlesnake	950	C	1	C	05/01-10/31	202	200	100
0849	Midland	661	C	1	C	06/01-08/31	165	165	159
0850	Home Ranch	7,152	C	1	C,H,S	05/01-11/20	585	551	585
0851	West Elk Mountain	790	C	1	C	05/15-09/30	127	127	127
0853	U.L.	640	C	1	C	06/20-09/15	120	120	132
0854	South Anschutz Block	3,167	C	1	C	05/01-10/31	363	363	363
0855	Arlington	841	C	1	C	07/01-08/29	142	142	141

TABLE LVGR AP-1 (Continued)

LIVESTOCK GRAZING ALLOTMENT INFORMATION

Allotment									
Number	Name	Public Land (acreage)	Allotment Category M, I, C[1]	Number of Operators	Livestock Kind[2]	Season of Use	Active Preference (AUMs)[3]	Average Five-Year Licensed Use	Current Production (AUMs)[4]
0856	Pine Ridge	880	C	1	C	05/01-09/30	207	207	207
0857	Bailey	2,331	C	1	C	05/16-09/30	518	518	603
0858	Three Mile Tract	40	C	1	C	04/01-02/28	8	8	8
0859	Coalbank Mine	1,120	C	1	C	05/01-09/30	294	115	294
0860	Upper Bear Creek	652	C	1	C	05/01-10/31	66	66	66
0861	Corpening	152	C	1	C	04/15-05/20	30	30	30
0862	Lake Creek Flats	13,102	C	1	C,S	03/01-02/28	1,215	1,215[7]	1,577
0863	North Lake Creek	160	C	1	C	06/01-08/31	45	45	19
0864	Sixmile Hill	133	C	1	S	11/01-04/30	16	12	16
0865	Lake Creek	1,280	C	1	C	09/15-10/15	136	136	136
0866	Buck Springs Draw	1,440	C	1	C	04/01-12/31	188	188	188
0867	Petry, 4900	1,295	C	1	C	05/25-09/30	202	162	202
0868	V U	2,647	I	1	C	05/01-10/14	357	323	357
0869	Cedar Creek	120	C	1	C	04/01-11/30	10	10	10
0870	East Coad Mountain	100	C	1	C	05/01-08/31	40	40	27
0871	Basin Ranch	760	C	1	C	06/20-09/15	127	127	127
0872	Overland Trail	120	C	1	C	07/01-09/16	24	19	24
0873	Dixon Block	757	C	1	C	07/01-09/30	151	148	151
0875	Cooper Hill	840	C	1	C	05/01-06/06	121	nonuse	120
0876	Seven Mile	400	C	1	C,H	06/01-08/31	60	57	60
0877	Miller	298	C	1	C	05/01-10/01	54	50	54
0878	County Line	320	C	1	C	05/15-09/14	74	61	58
0879	Lonesome Fox	100	C	1	C	07/01-12/31	18	18	18
1001	A Bar A Ranch	5,986	C	1	C	05/10-09/20	1,127	1,127	1,127
1002	Anderson Reservoir	160	C	1	C	06/01-10/31	23	23	23
1003	Corral Creek	1,320	I	1	C	07/01-10/31	132	132	132
1004	Bennett Peak	1,880	I	1	C	07/01-10/31	143	143	143
1005	Wood Hill	160	C	1	C	05/01-10/31	26	26	26
1006	Silver Spur Ranch	1,753	C	1	C	05/10-10/31	381	350	381
1007	Robert A. Dynes	119	C	1	C	06/01-09/30	7	4	7
1008	Finch Ranch	1,919	I	1	C	05/20-09/25; 10/15-10/30	138	138	138
1009	Cherokee Creek	960	C	1	C	06/01-09/30	123	123	123

TABLE LVGR AP-1 (Continued)

LIVESTOCK GRAZING ALLOTMENT INFORMATION

Allotment									
Number	Name	Public Land (acreage)	Allotment Category M, I, C[1]	Number of Operators	Livestock Kind[2]	Season of Use	Active Preference (AUMs)[3]	Average Five-Year Licensed Use	Current Production (AUMs)[4]
1010	Herring & Herring	1,898	I	1	C	06/15-09/30	165	165	165
1011	A. R. Huston	1,261	I	1	C	06/01-10/15	87	87	86
1013	Tennant Creek	729	I	1	C	05/10-09/30	127	131	63
1014	Kraft Ranch	240	C	1	C	06/01-09/30	12	12	12
1015	Flying Diamond	1,120	I	1	C	05/25-07/15	229	229	229
1016	Norman Merrill	200	C	1	C	07/01-09/30	36	36	36
1017	Cottonwood	1,966	I	1	C,H	01/03-04/30; 06/01-10/31	220	188	220
1018	Beaver Creek Hills	1,626	C	1	C	05/10-10/10	317	250	317
1019	Albert H. Oldman	560	I	1	C	06/01-09/15	48	48	48
1020	East Fork	200	C	1	C	05/01-10/31	20	20	20
1021	Platt	1,116	C	1	C	06/01-07/31	251	251	251
1022	Romios Ranch	2,120	I	1	C	06/15-08/31	265	265	265
1023	Arthur Rouse	1,877	I	1	C	05/10-09/30	251	251	251
1024	Beaver Creek Hills	960	C	1	C,H	05/25-10/31	144	144	144
1025	Fred Rutschman	195	C	1	C	06/01-07/31	22	22	22
1026	Ryan Ranches	788	C	1	C	05/20-06/20	78	82	78
1027	Sanger	5,012	C	1	C	05/01-09/30	699	699	699
1029	Saulcy	3,172	I	1	C	06/01-09/15	291	291	291
1031	North Fork	961	C	1	C	06/01-08/30	63	61	63
1032	Cotton Reservoir	1,880	C	1	C	06/01-10/31	270	270	270
1033	Antelope Creek	643	C	1	C	06/01-09/15	45	123[6]	31
1034	Wiant	320	C	1	C	05/20-10/31	27	29	27
1035	Willford Ranches	1,291	C	1	C	06/01-10/15	199	199	199
1036	Cottonwood Corral Creek	2,037	I	1	C	05/20-09/15	234	234	229
1038	Forster	35	C	1	C	06/21-09/20	8	8	8
1039	Little Beaver Creek	800	C	1	C	07/01-10/31	160	160	160
1041	South Cedar Creek	80	C	1	C	05/01-10/31	8	6	8
1042	Dufunny	320	C	1	C	06/01-06/30; 09/16-10/15	20	20	20
1043	Beaver Creek South	80	C	1	C	05/10-09/10	11	11	11
1044	Sowder-McNaney	544	C	1	C	05/01-10/31	92	92	92
1045	Chad	2,527	C	1	C	05/01-10/31	295	295	295

TABLE LVGR AP-1 (Continued)

LIVESTOCK GRAZING ALLOTMENT INFORMATION

Allotment									
Number	Name	Public Land (acreage)	Allotment Category M, I, C[1]	Number of Operators	Livestock Kind[2]	Season of Use	Active Preference (AUMs)[3]	Average Five-Year Licensed Use	Current Production (AUMs)[4]
1046	McCoid-Harrison	596	C	1	C	05/01-10/31	93	93	93
1047	Horn and Meason	785	C	1	C	07/01-10/31	67	67	67
1048	Kennaday	1,160	I	1	C	06/28-07/10; 10/01-10/21	137	137	137
1049	Prospect Mountain	7,854	I	1	C	05/10-09/10	1,494	1,494	1,494
1050	Platt Mine	924	I	1	C	06/01-09/30	205	205	205
1200	Belvoir Grazing	40	C	1	C	05/15-12/01	10	10	10
1201	Bowman	160	C	1	C	06/01-10/25	58	58	58
1202	Spring Creek[8]	0	C	1	C	06/21-09/20	0	0	0
1203	Merrill Farthing	650	C	1	C	06/01-10/31	75	75	75
1204	Ferguson Ranch "A"	360	C	1	C	05/15-10/20	52	52	52
1205	Ferguson Ranch "B"	160	C	1	C	05/15-09/29	18	18	18
1207	A. E. Hodgson	40	C	1	C	06/05-09/30	11	11	11
1208	Sand Creek	40	C	1	C	07/01-11/01	8	8	8
1209	Lazy D	61	C	1	C	05/10-10/30	15	15	15
1210	Ab. Lorenz	2,934	C	1	C	05/15-10/14	593	593	593
1211	McIntyre Draw	320	C	1	C	05/15-09/30	64	64	64
1212	J. D. McLees	1,160	C	1	C	05/10-10/31	135	135	137
1213	James Merritt "B"	661	C	1	C	06/01-10/01	120	145	120
1214	Moritz Brothers Inc.	320	C	1	C	05/10-09/30	80	80	80
1215	Soapstone Grazing Association	40	C	1	C	04/15-10/31	10	10	10
1216	Switzer	40	C	1	C	05/10-09/30	8	8	8
1218	Lodgepole Creek	480	C	1	C	07/01-11/30	120	120	120
1219	Andres Willadsen	40	C	1	C	06/01-09/30	8	8	8
1220	South of Happy Jack	77	C	1	C	05/25-08/31	13	13	13
1221	Threemile	724	C	1	C	06/01-12/01	172	172	172
9001	Anchor Ranch	160	C	1	C,S	05/01-09/30	72	66	72
9002	Anderson	240	C	1	C	06/01-09/30	60	60	14
9003	Associated Enterprises AA	280	C	1	C	05/10-09/30	32	32	32
9004	Associated Enterprises B	1,000	C	1	C	05/10-09/30	112	112	112
9005	Bailey Atkinson	2,190	C	1	S	09/01-05/31	375	277	375
9006	Ken Atkinson	2,081	C	1	C,S	05/01-11/30	359	359	359
9007	Dale Creek	40	C	1	C	05/01-07/15	12	12	12

TABLE LVGR AP-1 (Continued)

LIVESTOCK GRAZING ALLOTMENT INFORMATION

Allotment									
Number	Name	Public Land (acreage)	Allotment Category M, I, C[1]	Number of Operators	Livestock Kind[2]	Season of Use	Active Preference (AUMs)[3]	Average Five-Year Licensed Use	Current Production (AUMs)[4]
9008	L. W. Bailey	320	C	1	C	05/01-09/30	74	72	74
9009	WLX	3,536	C	1	C	05/01-10/31	501	501	501
9011	Bessie Bath	825	C	1	C	05/10-10/31	172	172	172
9012	Bath Brothers	1,240	C	1	C	07/01-11/01	310	310	310
9013	John & Marie Bell	6,682	C	1	C	05/01-10/10	1,070	1,070	1,070
9014	Bell-Otte Ranch	1,715	C	1	C	07/01-09/30	115	115	129
9017	The Buttes	320	C	1	C	06/10-09/30	48	48	48
9018	North Lodgepole Creek	160	C	1	C	06/01-10/31	37	37	37
9019	Frank Booth	1,237	C	1	C	06/01-08/31	260	260	260
9020	Bovee Horse Pasture	80	C	1	H	10/15-03/15	8	8	13
9021	Bovee	2,710	I	1	C	05/10-09/24	379	375	379
9022	Gibbs Place	1,664	C	1	C	06/01-09/30	282	282	282
9023	Wheatland Tunnel	2,960	C	1	C	06/01-11/30	498	498	505
9024	Wheatland Reservoir No. 2	800	C	1	C	06/01-09/30	132	132	132
9025	James Lake	4,538	C	1	C	06/01-09/15	676	676	676
9026	Waechter Canyon[8]	677	C	1	C	05/10-09/30	156	156	156
9027	Woodrow Brow	1,680	C	1	C	05/01-11/30	165	163	165
9028	Bear Head Mountain	80	C	1	C	05/01-12/31	8	8	8
9029	Indian Rock	680	C	1	C	06/01-10/15	110	110	79
9030	Burnett Creek[8]	2,686	C	1	C	08/01-10/01	314	371	452[5]
9031	Pinto Rocks	849	C	1	C	04/01-11/15	81	81	81
9032	J. H. Butler	41	C	1	C	05/15-06/14	7	7	7
9033	Carlin Ranch	1,948	C	1	C,S	05/01-10/31	300	300	364
9034	Palmer Canyon	280	C	1	C	05/01-12/31	71	71	71
9035	Chalk Hills Dry Creek	18,682	I	1	C,S	05/10-11/25	2,724	2,551	2,207[5]
9036	Pine Ridge	240	C	1	C	05/01-10/31	55	55	55
9037	Bull Camp Peak	4,380	C	1	C	06/01-09/22	678	678	678
9038	Ervin Corl	40	C	1	C	06/01-10/01	7	7	7
9039	Croonberg Ranch	1,440	C	1	S	06/01-09/30	215	215	215
9040	Parsons Creek	1,680	I	1	C,S	05/10-11/30	93	93	177[5]
9041	Davidson Creek	6,005	C	1	C,S	06/01-10/31	882	882	743[5]
9042	Cross Isolated Tract	120	C	1	C,S	06/01-10/31	18	22	18

TABLE LVGR AP-1 (Continued)

LIVESTOCK GRAZING ALLOTMENT INFORMATION

Allotment									
Number	Name	Public Land (acreage)	Allotment Category M, I, C[1]	Number of Operators	Livestock Kind[2]	Season of Use	Active Preference (AUMs)[3]	Average Five-Year Licensed Use	Current Production (AUMs)[4]
9043	Owen Creek	395	C	1	C	05/01-12/31	66	66	66
9044	Wheatland Reservoir No. 3	4,745	C	1	C	05/10-10/10	976	976	1,218
9045	North Fork	320	C	1	C	06/10-8/30	54	54	54
9046	Dale Creek	240	C	1	C	05/05-10/15	60	48	60
9047	Junction	840	C	1	C	06/01-11/30	182	182	178
9048	Carroll and Carroll	520	C	I	C	05/10-09/30	136	136	136
9049	Double K Ranch	798	C	1	C	04/01-11/30	181	181	181
9050	Dumbell Ranch Company	120	C	1	C	04/10-09/30	11	11	5
9051	Mule-Rogers Creek	7,136	C	1	C	05/15-11/15	1,638	1,358	1,638
9052	Spring Creek	1,462	C	1	C	05/10-09/30	298	298	298
9053	Strain	155	C	1	C,H	04/01-12/31	13	13	13
9054	Woods Landing	238	C	1	C	08/01-10/31	46	46	40
9055	Ferguson Ranch "C"	258	C	1	C	05/15-10/31	31	31	44
9056	PR5 Ranch[8]	721	C	1	C	11/01-05/31	111	103	68
9057	South Fork	593	C	1	C	05/15-09/15	101	48	101
9058	40 Mile Creek	80	C	1	C	06/01-10/31	16	nonuse	16
9059	Charles Garrett	640	C	1	C	06/01-08/15	67	67	70
9060	Sybille Creek[8]	964	C	1	C	05/01-08/31	170	170	149
9061	Warren George	4,581	I	1	C	06/01-11/23	517	517	551[5]
9062	William Goodrich	1,522	C	1	C	05/01-06/30; 08/15-10/14	174	174	174
9063	Ed Hall Ranch Inc.	160	C	1	C	05/10-09/30	40	40	40
9064	Menter-Rattlesnake	719	C	1	C,H	04/01-12/31	58	58	46
9066	West Fork	1,680	C	1	C	05/01-09/30	294	294	290
9067	Antelope Basin	1,655	C	1	C	06/25-10/18	325	325	325
9068	Rock Creek	1,888	C	1	C	04/01-06/24; 10/19-11/19	286	286	286
9070	Canyon Creek[8]	40	C	1	C	11/01-04/30	3	3	3
9071	Slate Creek[8]	237	C	1	C	05/01-10/31	22	22	22
9072	Harris Ranch	2,603	C	1	C	05/10-09/30	465	465	465
9073	Robert Hawley	120	C	1	C	06/15-09/15	26	26	26
9074	Heart B South Pasture	5,812	C	1	C	05/15-10/31	1,110	733	1,110

TABLE LVGR AP-1 (Continued)

LIVESTOCK GRAZING ALLOTMENT INFORMATION

Allotment									
Number	Name	Public Land (acreage)	Allotment Category M, I, C[1]	Number of Operators	Livestock Kind[2]	Season of Use	Active Preference (AUMs)[3]	Average Five-Year Licensed Use	Current Production (AUMs)[4]
9075	Heart B North Pasture	4,016	C	1	C	05/15-10/31	788	454	788
9078	Indian Guide	1,205	C	1	C	06/01-01/31	233	233[6]	188
9079	Cherry Creek	640	C	1	C	05/10-09/30	32	32	34
9080	JW Ranch, Ltd.	160	C	1	C	05/10-09/30	42	42	42
9081	Coalbank	40	C	1	C	06/01-08/31	10	10	10
9082	Government Creek	160	C	1	C	05/01-09/30	25	25	48
9083	Bamforth	393	C	1	C	06/01-11/30	85	104[6]	85
9084	Johnson Fuel Liners	2,283	C	1	C	06/01-10/31	570	570	547
9086	Bar M Mountain	635	C	1	C	05/10-11/30	45	44	45
9087	Kennedy	648	C	1	C	05/01-10/31	60	35	60
9089	River Basin	2,437	C	1	C	10/01-03/31	173	173	173
9090	Dodge Creek Ranch	318	C	1	C	05/15-11/15	88	88	88
9091	Leazenby Lake	160	C	1	C	05/15-11/15	40	40	40
9092	Steamboat Rock	4,792	C	1	C	06/15-10/01	648	648	872
9093	W. J. Logan	40	C	1	C	05/10-09/30	11	11	11
9094	Irvine JE and GA	2,002	C	1	C	05/01-10/31	438	438	479
9095	James Atkinson	120	C	1	C	05/20-07/01	15	15	15
9096	Boswell Ranch	2,243	I	1	C	05/15-10/15	299	299	305
9098	Rock Creek	320	C	1	C	05/01-10/31	34	34	34
9099	McGill	797	C	1	C	05/10-09/30	77	77	77
9100	Paradise Creek	80	C	1	C	05/01-10/01	7	7	7
9101	Ione	200	C	1	C	05/01-10/31	30	30	30
9102	Sheep Rock	99	C	1	C	05/10-09/30	4	4	4
9103	Pinto Creek	2,840	C	1	C	05/15-10/30	370	370	396
9104	South Wheatland No. 2	5,696	C	1	C	05/15-10/15	1,198	1,198	1,198
9105	J. & J. McLaughlin	10,771	C	1	C	05/01-11/01	1,397	1,397	1,398
9106	Mill Creek	773	C	1	C	04/01-12/01	143	143	143
9107	Poe Mountain—Canyon Creek	1,360	C	1	C	06/01-10/31	161	163	161
9108	James Merritt "A"	57	C	1	C	06/01-10/01	14	14	14
9109	Strouse Hill	12,246	C	1	C	05/01-10/01	2,451	2,451	2,451
9110	Plumbago Canyon	360	C	1	C	06/15-08/15	73	73	73
9113	Sheep Creek	427	C	1	C	05/10-09/30	103	131[6]	103

TABLE LVGR AP-1 (Continued)

LIVESTOCK GRAZING ALLOTMENT INFORMATION

Allotment									
Number	Name	Public Land (acreage)	Allotment Category M, I, C[1]	Number of Operators	Livestock Kind[2]	Season of Use	Active Preference (AUMs)[3]	Average Five-Year Licensed Use	Current Production (AUMs)[4]
9114	Morgan & Edwards	160	C	1	C	05/10-11/30	15	15	15
9115	Needmore Ranch	1,570	C	1	C	06/01-09/30	151	151	151
9117	Downey Lakes	380	C	1	C	05/15-09/15	92	92	92
9118	East Jelm Mountain	1,400	I	1	C	05/15-10/31	259	259	280
9119	Holland Lease	440	I	1	C	05/10-09/30	83	83	67
9120	Sunrise Creek	1,020	I	1	C	05/10-09/30	182	182	95
9121	Palmer	160	C	1	C	01/01-02/28	25	25	25
9122	Werner	37	C	1	C	06/01-09/30	4	4	4
9123	Halleck Canyon	685	C	1	H	05/01-11/30	82	57	82
9124	Bosler Canal #3	120	C	1	C	05/16-10/15	36	36	36
9126	Bone Creek	4,480	C	1	C	06/01-11/30	844	844	974
9127	Leona Prager	880	C	1	C	10/01-12/31	114	113	117
9128	R. O. Corporation	2,825	C	1	C	05/15-10/15	581	581	581
9129	Red Mountain	78	C	1	C	05/01-06/30; 09/01-10/31	20	20	20
9130	Buford	110	C	1	C,H	05/01-10/31	38	38	38
9131	Dale Robbins	959	C	1	C	06/15-09/30	194	194	184
9132	James Robbins	2,956	C	1	C	06/01-08/31	414	414	414[5]
9133	Green Creek	564	C	1	C	08/01-11/30	57	57	40
9134	Holaday Place	241	C	1	C	06/01-07/31	35	35	34[5]
9135	Badger Creek	353	C	1	C	07/01-09/30	26	26	23
9136	Twenty Mile Draw	4,977	C	1	C	05/22-09/14	940	833	940
9137	Chislo Ranch	1,920	C	1	C	05/01-10/31	146	146	146
9138	Lookout Ranch	3,534	C	1	C,S	05/01-10/31	648	648	567
9139	Sand Creek Land & Livestock	920	C	1	C	06/01-10/31	241	241	241
9140	Sanders	77	C	1	C	05/01-09/30	13	13	13
9141	Mule Creek	1,433	C	1	C	05/01-11/30	146	146	141
9142	Sheep Mountain Ranch	5,143	C	1	C	05/10-09/30	789	789	789
9145	Boot Heel	1,520	C	1	S	05/01-11/30	284	284	97
9147	Sommers	1,824	C	1	C	06/01-09/30	279	279	386
9148	Springfield Ranch Inc.	1,040	C	1	C	05/15-10/31	240	233	250
9149	Sterrett	120	C	1	C	06/01-09/30	16	16	16
9150	Meiser Lake—Lookout	9,590	C	1	C	04/15-10/15	2,281	2,281	2,281

TABLE LVGR AP-1 (Continued)

LIVESTOCK GRAZING ALLOTMENT INFORMATION

Allotment		Public Land (acreage)	Allotment Category M, I, C[1]	Number of Operators	Livestock Kind[2]	Season of Use	Active Preference (AUMs)[3]	Average Five-Year Licensed Use	Current Production (AUMs)[4]
Number	Name								
9151	North Laramie— North Creek	2,242	C	1	C	05/10-09/30	259	257	259
9152	Coyote Canyon	280	C	1	C	12/01-03/31	33	33	33
9153	Sellers Mountain	2,840	C	1	C	05/10-09/30	410	410	470
9154	Meiser Creek	1,626	C	1	C,H	03/01-02/29	220	123	220
9155	McFarlane Creek	1,308	C	1	C	03/01-02/28	94	94	136
9156	Duck Creek	592	C	1	C	06/01-07/07	45	45	45
9157	T-K Ranch	1,262	C	1	C	06/01-10/10	215	215	215
9158	Talbott	120	C	1	C,S	05/15-10/15	18	18	18
9159	Tatman Original	1,120	C	1	C,H	05/10-11/09	338	338	338
9160	Hirsig Place	1,676	C	1	C,H	05/10-11/09	545	545	545
9161	Dirt Farm	320	C	1	C	06/01-08/31	42	42	42
9163	Swan	3,753	C	1	C	04/01-09/30	809	809	809
9164	Three D's & T	1,556	C	1	C	06/01-09/30	232	232	232[5]
9165	Little Laramie River	675	C	1	C	07/01-09/30	112	112	112
9166	I-80 Overpass	178	C	1	C	06/01-11/30	56	56	56
9167	Canyon Creek	160	C	1	C	05/01-12/31	26	26	26
9168	Mud Springs	8,471	C	1	C	05/01-12/31	1,722	1,722	1,528
9169	Wallrock Creek	1,010	C	1	C	05/15-11/15	176	168	168
9170	Warren Livestock "A"	3,586	C	1	C,S	06/01-10/15	280	280	280
9171	Warren Livestock "B"	200	C	1	C,S	06/01-10/15	32	32	32
9173	Dutton Creek	643	C	1	C	05/15-11/01	139	139	139
9174	Marius Willadsen	40	C	1	C	06/01-10/15	8	8	8
9175	Williams Land & Livestock	1,096	C	1	C	05/01-10/31	334	334	334
9176	Merril Draw	1,401	C	1	C	05/01-12/01	184	179	184
9178	Kirk Ranch Natrona[8]	1,400	I	1	C	11/15-03/06; 05/12-07/26	151	120	156
9179	Yankee Draw	1,777	C	1	C	05/10-09/30	311	311	311
9181	Indian Rock	1,939	C	1	C	05/15-11/15	265	208	265
9182	Chimney Rock	1,023	C	1	C	05/15-10/15	216	216	167
9183	Laramie Peak BGWR	40	C	1	C	06/15-10/15	6	6	6

TABLE LVGR AP-1 (Continued)

LIVESTOCK GRAZING ALLOTMENT INFORMATION

Allotment									
Number	Name	Public Land (acreage)	Allotment Category M, I, C[1]	Number of Operators	Livestock Kind[2]	Season of Use	Active Preference (AUMs)[3]	Average Five-Year Licensed Use	Current Production (AUMs)[4]
9184	J. Kennedy's	960	C	1	C	06/01-12/01	111	111	111
9185	North Laramie River	83	C	1	C	05/01-09/30	15	15	15
9186	Flat Top	600	C	1	C	05/01-10/01	132	132	132
9187	China Wall	1,040	C	1	C	05/15-10/31	102	82	102
9188	South Meiser Creek	1,266	C	1	C	05/01-11/30	112	112	112
9189	George Creek[8]	0	C	1	C	05/01-11/30	0	0	0
9190	NE Flying X[8]	621	C	1	C	05/10-10/31	107	14	107
9191	Plumbago	890	C	1	C	06/01-12/01	76	76	76
9192	Section 22	640	C	1	C,S	04/15-10/15	64	64	64
9193	Sawmill	740	C	1	C	06/01-09/30	118	nonuse	118
9194	Bluegrass	1,560	C	1	C	06/05-10/05	259	259	259
9195	Sugar Loaf	560	C	1	C	11/20-04/20	47	47	47
9196	Holman	80	C	1	C	04/01-07/31	9	9	9
9197	Desert	320	C	1	C	06/01-10/31	45	45	45
9198	Tunnel Road[8]	121	C	1	C	06/01-10/31	10	10	10
9199	East Sheldon[8]	0	C	1	C	11/06-05/15	0	0	0
9202	Lookout Peak	2,831	C	1	C	05/16-10/15	595	595	595
9203	Upper Pine Ridge	3,366	C	1	Y	05/16-10/15	977	977	1,040
9204	Grant Creek	40	C	1	C	05/10-09/30	9	9	9
9205	Goat Mountain	640	C	1	C	06/01-09/15	45	45	45
	Totals for the Medicine Bow Grazing EIS Area	**1,005,684**					**161,464**	**147,024**	**158,217**

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[1] The grazing allotments are grouped into categories, and a set of management objectives is attached to each category, as follows: category "M," maintain or improve present management; category "I," enhance and improve present management; category "C," manage custodially to prevent allotment deterioration.

[2] "Livestock kind" refers to the type of livestock on license over a five-year period, 1981 through 1985. C = cows; H = horses; S = sheep; Y = yearlings.

[3] The combined number of animal unit months adjudicated to the operator(s) of a particular allotment.

TABLE LVGR AP-1 (Continued)

LIVESTOCK GRAZING ALLOTMENT INFORMATION

[4] The estimated number of AUMs an allotment can support. Except where otherwise noted, estimates are based on the Missouri River Basin range survey of 1962 and on professional judgment.

[5] The estimated number of AUMs an allotment can support. Estimates are based on the 1986 Medicine Bow Resource Area range inventory.

[6] These actual use figures do not accurately reflect a five-year average for one or more of the following reasons: (a) transfer of grazing privilege; (b) readjudication; (c) adjustment of allotment boundaries and/or acreages, including combining of allotments or splitting of allotments; (d) livestock type conversion factors not applied to these figures. If further clarification is desired, specific information is available in case files in the office of Medicine Bow and Divide resource areas.

[7] A five-year average could not be determined from the grazing case files; therefore, the grazing preference figures were used.

[8] Allotments that are administered by the Rawlins District that have federal acreage lying partially or totally in the Casper District.

[9] Allotments that are administered by the Casper District that have federal acreage lying in both the Rawlins and Casper districts. The allotment statistics presented in this table represent only the portions of the allotments that lie in the Rawlins District.

TABLE LVGR AP-2

CURRENT ECOLOGICAL CONDITION AND TREND ON PUBLIC LAND IN THE MEDICINE BOW LIVESTOCK GRAZING EIS AREA

Allotment		Current Ecological Condition[1] (acreage)					Current Estimated Trend[3]
Number	Name	Excellent	Good	Fair	Poor	Unclassified[2]	
0003	Bates Creek[6]	0	411[4]	2,855[4]	0	93[4]	Downward[5]
0040	Marton[6]	0	1,265[4]	2,833[4]	0	25[4]	Downward[5]
0047	Lone Tree[6]	0	807[4]	1,173[4]	0	20[4]	Downward[5]
0061	Squaw Mountain[6]	0	280	0	0	0	Static
0216	Taylor-Powder Horn[6]	0	78[4]	225[4]	0	60[4]	Static[5]
0261	Gallagher[6]	0	412	0	0	0	Static
0289	Horr[6]	0	343	0	0	0	Static
0301	Pathfinder	0	3,752[4]	2,483[4]	49[4]	1,287	Downward[5]
0302	Little Canyon Creek	0	511[4]	407[4]	98[4]	297	Static[5]
0303	Canyon Creek	0	1,917[4]	1,533[4]	0	76	Downward[5]
0305	Camp Creek	6[4]	1,084[4]	2,389[4]	18[4]	0	Downward[5]
0306	Kirk Ranch	153[4]	2,566[4]	374[4]	0	302	Upward[5]
0307	Bates Hole	590[4]	8,260[4]	1,474[4]	21[4]	2,053	Upward[5]
0309	Moss Agate	13[4]	2,713[4]	2,948[4]	0	681	Downward[5]
0310	Antelope Springs	5[4]	1,191[4]	2,092[4]	0	0	Downward[5]
0311	Bates Benchmark	0	1,277[4]	2,848[4]	14[4]	123	Downward[5]
0312	7E Ranch	448[4]	2,649[4]	4,767[4]	4[4]	977	Downward[5]
0315	Indian Springs	0	8,979[4]	4,422[4]	75[4]	2,067	Downward[5]
0316	Dry Creek Rim	3,104[4]	13,455[4]	5,239[4]	380[4]	3,572	Static[5]
0317	Upper Dry Creek	0	1,804[4]	2,421[4]	2[4]	198	Static[5]
0318	Shirley Ridge	474[4]	5,397[4]	1,133[4]	80[4]	609	Upward[5]
0319	Little Medicine	239[4]	7,247[4]	11,046[4]	0	0	Downward[5]
0320	Leo	0	4,614[4]	4,949[4]	304[4]	1,581	Downward[5]
0321	Dry Creek	0	4,503[4]	3,709[4]	24[4]	1,625	Downward[5]
0322	Spring Creek	796[4]	7,481[4]	1,583[4]	73[4]	454	Downward[5]
0323	Black Canyon	0	4,424[4]	4,708[4]	78[4]	5,145	Downward[5]
0324	Palmer-Nelson	0	2,148[4]	1,360[4]	54[4]	679	Downward[5]
0325	Cady	0	58[4]	93[4]	24[4]	10	Downward[5]
0326	Beaver Creek	0	744[4]	1,369[4]	0	272	Downward[5]
0327	School Section	0	711[4]	43[4]	0	62	Downward[5]
0328	Sullivan	6,568[4]	49,880[4]	41,497[4]	712[4]	12,038	Downward[5]
0329	Lost Creek	10[4]	1,262[4]	1,577[4]	0	212	Downward[5]
0330	House Gulch	0	927[4]	1,239[4]	72[4]	147	Downward[5]
0331	Upper Lost Creek	0	417[4]	36[4]	2[4]	134	Downward[5]
0332	Thornton Place	43[4]	1,463[4]	1,335[4]	0	11	Upward[5]
0333	South Bennett North	212[4]	3,040[4]	1,728[4]	4[4]	0	Upward[5]
0334	Corral Creek	16[4]	2,299[4]	3,114[4]	68[4]	213	Downward[5]
0335	Shirley Mountain	158[4]	2,349[4]	7,775[4]	189[4]	7,837	Downward[5]
0336	Mud Springs	52[4]	697[4]	187[4]	0	257	Upward[5]

TABLE LVGR AP-2 (Continued)

CURRENT ECOLOGICAL CONDITION AND TREND ON PUBLIC LAND IN THE MEDICINE BOW LIVESTOCK GRAZING EIS AREA

Allotment		Current Ecological Condition^1 (acreage)					Current Estimated Trend^3
Number	Name	Excellent	Good	Fair	Poor	Unclassified^2	
0337	Bunker	0	4,625^4	2,269^4	7^4	563	Downward^5
0339	Grasshopper	0	40	0	0	0	Static
0340	Horse Springs	84^4	2,868^4	2,675^4	2^4	0	Upward^5
0351	Edwards^6	0	155	0	0	0	Static
0361	Wilson^6	0	40	0	0	0	Static
0364	Milo^6	0	40	0	0	0	Static
0399	Peterson^6	0	80	0	0	0	Static
0452	Strock^6	0	280	0	0	0	Static
0524	Rock Creek^6	0	0	50^4	0	0	Downward^5
0801	South Bennett South	0	1,758^4	745^4	7^4	0	Upward^5
0802	Tennant Place	0	63^4	0	0	67	Static^5
0803	Horseshoe Ridge	17^4	2,549^4	2,088^4	0	0	Downward^5
0804	South Austin Creek	267^4	189^4	1,286^4	28^4	78	Downward^5
0805	East Seminoe	0^4	655^4	596^4	33^4	622	Downward^5
0806	Schneider Ridge	168^4	388^4	407^4	38^4	1,868	Upward^5
0807	East Schneider Ridge	253^4	3,058^4	4,433^4	5^4	2,457	Downward^5
0808	T. E. Ranch	438^4	600^4	397^4	58^4	115	Downward^5
0809	Medicine Bow	14^4	280^4	49^4	0	451	Upward^5
0810	RR 30	0	672	0	0	0	Downward
0811	Ellis Block	297^4	6,607^4	3,165^4	171^4	3,281	Downward^5
0812	Freezeout	0	149^4	135^4	0	236	Downward^5
0813	Oil Springs	29	458^4	31^4	0	79	Downward^5
0814	T B Flats D.M.	0	763^4	156^4	0	81	Upward^5
0817	Little Medicine Bow	0	1,160	0	0	0	Downward
0818	T B Flats	0	307	205	0	0	Upward
0819	North Walcott	0	28,700	3,068	0	0	Downward
0820	Quealey Block	1,741	20,295	4,712	0	0	Upward
0821	South Seminoe	0	1,900	0	0	390	Downward
0822	Dana Block North	913	20,663	8,204	0	0	Static
0824	North Area	0	10,475	2,130	0	0	Static
0825	Slate Ridge	580	2,520	1,831	0	0	Static
0826	Robbers Roost	0	3,982	995	0	0	Downward
0827	Pass Creek Ridge	643	18,399	3,784	433	3,049	Upward
0828	Wilson Pasture	0	0	320	0	0	Downward
0829	Dana Meadows South	113	3,776	9,280	695	0	Static
0830	Chace Block	468	8,606	5,922	0	0	Downward
0831	Third Sand Creek	0	360	0	0	0	Upward
0832	North Anschutz	0	11,970	4,919	160	0	Downward
0833	East Allen Lake	0	243	0	0	0	Static

TABLE LVGR AP-2 (Continued)

CURRENT ECOLOGICAL CONDITION AND TREND ON PUBLIC LAND IN THE MEDICINE BOW LIVESTOCK GRAZING EIS AREA

Allotment		Current Ecological Condition[1] (acreage)					Current Estimated Trend[3]
Number	Name	Excellent	Good	Fair	Poor	Unclassified[2]	
0834	Foote Creek Pasture	772	4,264	0	0	0	Static
0836	Pine Ridge	490	2,833	4,900	0	0	Static
0838	South Walcott	0	1,388	918	0	107	Downward
0839	Lone Tree Allotment	0	1,130	1,429	0	0	Static
0840	Soil Bank Pasture	0	40	0	0	120	Downward
0841	Peterson Ranch	0	80	0	0	0	Downward
0842	Wolfe	0	10	270	0	0	Downward
0843	Meads	0	0	0	640	0	Static
0844	Pass Creek Flats	0	1,180	520	2,508	0	Upward
0845	T. A. Ranch	0	361	2,582	0	0	Upward
0846	Coyote Ditch	0	80	0	0	0	Static
0847	Home Pasture	0	80	0	0	0	Static
0848	Rattlesnake	0	855	95	0	0	Downward
0849	Midland	0	661	0	0	0	Static
0850	Home Ranch	0	3,104	528	0	3,520	Static
0851	West Elk Mountain	0	0	0	0	790	Static
0853	U.L.	0	512	128	0	0	Upward
0854	South Anschutz Block	0	1,900	1,267	0	0	Static
0855	Arlington	0	841	0	0	0	Static
0856	Pine Ridge	0	440	440	0	0	Downward
0857	Bailey	0	1,748	583	0	0	Upward
0858	Three Mile Tract	0	40	0	0	0	Static
0859	Coalbank Mine	0	952	168	0	0	Static
0860	Upper Bear Creek	0	652	0	0	0	Static
0861	Corpening	0	40	112	0	0	Static
0862	Lake Creek Flats	0	3,370	9,732	0	0	Upward
0863	North Lake Creek	0	160	0	0	0	Downward
0864	Sixmile Hill	0	133	0	0	0	Static
0865	Lake Creek	0	0	130	1,150	0	Static
0866	Buck Springs Draw	0	310	500	630	0	Static
0867	Petry, 4900	0	15	1,280	0	0	Static
0868	V U	0	1,110	1,537	0	0	Downward
0869	Cedar Creek	0	120	0	0	0	Static
0870	East Coad Mountain	0	171	19	0	0	Downward
0871	Basin Ranch	0	608	152	0	0	Static
0872	Overland Trail	0	120	0	0	0	Static
0873	Dixon Block	0	606	151	0	0	Static
0875	Cooper Hill	0	840	0	0	0	Static
0876	Seven Mile	0	280	120	0	0	Static

TABLE LVGR AP-2 (Continued)

CURRENT ECOLOGICAL CONDITION AND TREND ON PUBLIC LAND IN THE MEDICINE BOW LIVESTOCK GRAZING EIS AREA

Allotment		Current Ecological Condition[1] (acreage)					Current Estimated Trend[3]
Number	Name	Excellent	Good	Fair	Poor	Unclassified[2]	
0877	Miller	194	0	0	104	0	Static
0878	County Line	0	320	0	0	0	Downward
0879	Lonesome Fox	0	50	50	0	0	Static
1001	A Bar A Ranch	299	2,095	3,592	0	0	Static
1002	Anderson Reservoir	0	0	160	0	0	Downward
1003	Corral Creek	66	594	660	0	0	Static
1004	Bennett Peak	336	376	1,128	0	40	Downward
1005	Wood Hill	0	80	80	0	0	Static
1006	Silver Spur Ranch	0	438	1,315	0	0	Static
1007	Robert A. Dynes	0	119	0	0	0	Static
1008	Finch Ranch	192	863	864	0	0	Downward
1009	Cherokee Creek	0	480	480	0	0	Static
1010	Herring & Herring	0	949	949	0	0	Static
1011	A. R. Huston	126	504	378	253	0	Downward
1013	Tennant Creek	0	547	182	0	0	Static
1014	Kraft Ranch	0	240	0	0	0	Static
1015	Flying Diamond	0	728	392	0	0	Static
1016	Norman Merrill	0	60	140	0	0	Static
1017	Cottonwood	0	1,966	0	0	0	Static
1018	Beaver Creek Hills	0	1,220	406	0	0	Static
1019	Albert H. Oldman	112	224	224	0	0	Downward
1020	East Fork	20	100	80	0	0	Static
1021	Platt	0	781	335	0	0	Static
1022	Romios Ranch	0	1,060	1,060	0	0	Downward
1023	Arthur Rouse	563	657	657	0	0	Downward
1024	Beaver Creek Hills	0	912	48	0	0	Static
1025	Fred Rutschman	0	195	0	0	0	Static
1026	Ryan Ranches	0	394	394	0	0	Static
1027	Sanger	1,002	3,258	752	0	0	Static
1029	Saulcy	317	1,904	951	0	0	Static
1031	North Fork	96	577	192	96	0	Downward
1032	Cotton Reservoir	0	1,880	0	0	0	Static
1033	Antelope Creek	64	257	257	65	0	Static
1034	Wiant	0	0	320	0	0	Static
1035	Willford Ranches	129	581	581	0	0	Static
1036	Cottonwood Corral Creek	713	1,324	0	0	0	Static
1038	Forster	0	17	18	0	0	Static
1039	Little Beaver Creek	0	480	320	0	0	Static

TABLE LVGR AP-2 (Continued)

CURRENT ECOLOGICAL CONDITION AND TREND ON PUBLIC LAND IN THE MEDICINE BOW LIVESTOCK GRAZING EIS AREA

Allotment		Current Ecological Condition[1] (acreage)					Current Estimated Trend[3]
Number	Name	Excellent	Good	Fair	Poor	Unclassified[2]	
1041	South Cedar Creek	0	40	40	0	0	Static
1042	Dufunny	0	320	0	0	0	Static
1043	Beaver Creek South	0	80	0	0	0	Static
1044	Sowder-McNaney	0	272	272	0	0	Static
1045	Chad	0	1,264	1,263	0	0	Static
1046	McCoid-Harrison	0	298	298	0	0	Static
1047	Horn and Meason	0	392	393	0	0	Static
1048	Kennaday	0	580	580	0	0	Static
1049	Prospect Mountain	393	2,749	4,712	0	0	Static
1050	Platt Mine	0	647	277	0	0	Static
1200	Belvoir Grazing	0	40	0	0	0	Static
1201	Bowman	0	0	160	0	0	Static
1202	Spring Creek	0	0	0	0	0	Static
1203	Merrill Farthing	0	585	65	0	0	Static
1204	Ferguson Ranch "A"	0	360	0	0	0	Static
1205	Ferguson Ranch "B"	0	160	0	0	0	Static
1207	A. E. Hodgson	0	40	0	0	0	Static
1208	Sand Creek	0	40	0	0	0	Static
1209	Lazy D	0	0	61	0	0	Static
1210	Ab. Lorenz	0	2,641	293	0	0	Static
1211	McIntyre Draw	0	288	32	0	0	Static
1212	J. D. McLees	310	190	660	0	0	Static
1213	James Merritt "B"	0	661	0	0	0	Static
1214	Moritz Brothers Inc.	0	0	320	0	0	Static
1215	Soapstone Grazing Association	0	40	0	0	0	Static
1216	Switzer	0	40	0	0	0	Static
1218	Lodgepole Creek	0	480	0	0	0	Static
1219	Andres Willadsen	0	40	0	0	0	Static
1220	South of Happy Jack	0	77	0	0	0	Static
1221	Threemile	644	80	0	0	0	Static
9001	Anchor Ranch	0	64	96	0	0	Static
9002	Anderson	0	0	240	0	0	Static
9003	Associated Enterprises A	0	280	0	0	0	Static
9004	Associated Enterprises B	0	1,000	0	0	0	Static
9005	Bailey Atkinson	0	2,150	40	0	0	Static
9006	Ken Atkinson	0	1,879	202	0	0	Static

TABLE LVGR AP-2 (Continued)

CURRENT ECOLOGICAL CONDITION AND TREND ON PUBLIC LAND IN THE MEDICINE BOW LIVESTOCK GRAZING EIS AREA

Allotment		Current Ecological Condition[1] (acreage)					Current Estimated Trend[3]
Number	Name	Excellent	Good	Fair	Poor	Unclassified[2]	
9007	Dale Creek	0	40	0	0	0	Static
9008	L. W. Bailey	0	240	80	0	0	Static
9009	WLX	0	3,182	354	0	0	Static
9011	Bessie Bath	0	495	330	0	0	Static
9012	Bath Brothers	0	1,240	0	0	0	Static
9013	John & Marie Bell	0	5,346	1,336	0	0	Static
9014	Bell-Otte Ranch	0	1,544	171	0	0	Static
9017	The Buttes	32	256	32	0	0	Static
9018	North Lodgepole Creek	0	112	48	0	0	Static
9019	Frank Booth	0	742	495	0	0	Static
9020	Bovee Horse Pasture	0	0	80	0	0	Static
9021	Bovee	1,400	950	0	0	360	Static
9022	Gibbs Place	0	1,664	0	0	0	Static
9023	Wheatland Tunnel	0	2,960	0	0	0	Static
9024	Wheatland Reservoir No. 2	0	800	0	0	0	Static
9025	James Lake	0	2,950	1,588	0	0	Static
9026	Waechter Canyon	34	643	0	0	0	Static
9027	Woodrow Brow	0	1,260	420	0	0	Static
9028	Bear Head Mountain	80	0	0	0	0	Static
9029	Indian Rock	640	40	0	0	0	Downward
9030	Burnett Creek	0	195[4]	1,898[4]	20[4]	573	Downward[5]
9031	Pinto Rocks	0	424	425	0	0	Static
9032	J. H. Butler	0	21	20	0	0	Static
9033	Carlin Ranch	0	1,169	779	0	0	Static
9034	Palmer Canyon	0	196	84	0	0	Static
9035	Chalk Hills Dry Creek	602[4]	7,149[4]	10,307[4]	0	624	Downward[5]
9036	Pine Ridge	0	240	0	0	0	Static
9037	Bull Camp Peak	219	3,066	1,095	0	0	Static
9038	Ervin Corl	0	20	20	0	0	Static
9039	Croonberg Ranch	0	800	640	0	0	Static
9040	Parsons Creek	0	0	997[4]	297[4]	386	Downward[5]
9041	Davidson Creek	29[4]	2,336[4]	3,581[4]	8[4]	51	Static[5]
9042	Cross Isolated Tract	0	100	20	0	0	Static
9043	Owen Creek	0	277	118	0	0	Static
9044	Wheatland Number 3	2,510	1,755	0	480	0	Upward
9045	North Fork	0	320	0	0	0	Static

TABLE LVGR AP-2 (Continued)

CURRENT ECOLOGICAL CONDITION AND TREND ON PUBLIC LAND IN THE MEDICINE BOW LIVESTOCK GRAZING EIS AREA

Allotment		Current Ecological Condition[1] (acreage)					Current Estimated Trend[3]
Number	Name	Excellent	Good	Fair	Poor	Unclassified[2]	
9046	Dale Creek	0	144	96	0	0	Static
9047	Junction	90	750	0	0	0	Downward
9048	Carroll and Carroll	0	468	52	0	0	Static
9049	Double K Ranch	0	798	0	0	0	Static
9050	Dumbell Ranch Company	0	120	0	0	0	Static
9051	Mule-Rogers Creek	2,717	4,064	355	0	0	Static
9052	Spring Creek	982	480	0	0	0	Static
9053	Strain	0	110	30	0	15	Static
9054	Woods Landing	238	0	0	0	0	Static
9055	Ferguson Ranch "C"	0	258	0	0	0	Static
9056	PR5 Ranch	0	541	180	0	0	Downward
9057	South Fork	0	356	237	0	0	Static
9058	40 Mile Creek	40	40	0	0	0	Static
9059	Charles Garrett	630	10	0	0	0	Static
9060	Sybille Creek	0	763	201	0	0	Downward
9061	Warren George	0	1,610[4]	2,185[4]	0	786	Downward[5]
9062	William Goodrich	761	761	0	0	0	Static
9063	Ed Hall Ranch Inc.	0	160	0	0	0	Static
9064	Menter-Rattlesnake	719	0	0	0	0	Downward
9066	West Fork	0	1,680	0	0	0	Static
9067	Antelope Basin	0	1,655	0	0	0	Static
9068	Rock Creek	190	1,648	50	0	0	Static
9070	Canyon Creek	0	40	0	0	0	Static
9071	Slate Creek	28	209	0	0	0	Static
9072	Harris Ranch	0	939	1,664	0	0	Static
9073	Robert Hawley	0	120	0	0	0	Static
9074	Heart B South Pasture	922	4,660	230	0	0	Static
9075	Heart B North Pasture	1,063	2,953	0	0	0	Static
9078	Indian Guide	480	640	55	0	30	Downward
9079	Cherry Creek	0	640	0	0	0	Static
9080	JW Ranch, Ltd.	0	64	96	0	0	Static
9081	Coalbank	0	40	0	0	0	Static
9082	Government Creek	0	160	0	0	0	Upward
9083	Bamforth	0	0	393	0	0	Static
9084	Johnston Fuel Liners	150	2,133	0	0	0	Downward

TABLE LVGR AP-2 (Continued)

CURRENT ECOLOGICAL CONDITION AND TREND ON PUBLIC LAND IN THE MEDICINE BOW LIVESTOCK GRAZING EIS AREA

Allotment		Current Ecological Condition[1] (acreage)					Current Estimated Trend[3]
Number	Name	Excellent	Good	Fair	Poor	Unclassified[2]	
9086	Bar M Mountain	0	635	0	0	0	Static
9087	Kennedy	0	453	195	0	0	Static
9089	River Basin	0	2,437	0	0	0	Static
9090	Dodge Creek Ranch	238	80	0	0	0	Static
9091	Leazenby Lake	0	160	0	0	0	Static
9092	Steamboat Rock	0	3,834	958	0	0	Upward
9093	W. J. Logan	0	32	8	0	0	Static
9094	Irvine, JE and GA	0	1,962	0	0	40	Upward
9095	James Atkinson	0	120	0	0	0	Static
9096	Boswell Ranch	470	2,106	40	0	0	Downward
9098	Rock Creek	0	320	0	0	0	Static
9099	McGill	0	638	159	0	0	Static
9100	Paradise Creek	80	0	0	0	0	Static
9101	Ione	0	200	0	0	0	Static
9102	Sheep Rock	0	79	20	0	0	Static
9103	Pinto Creek	1,360	1,480	0	0	0	Upward
9104	South Weatland No. 2	521	4,567	608	0	0	Static
9105	J. & J. McLaughlin	1,164	9,067	475	0	65	Static
9106	Mill Creek	0	309	464	0	0	Static
9107	Poe Mountain—Canyon Creek	0	80	1,280	0	0	Static
9108	James Merritt "A"	0	57	0	0	0	Static
9109	Strouse Hill	596	11,450	200	0	0	Static
9110	Plumbago Canyon	360	0	0	0	0	Static
9113	Sheep Creek	0	427	0	0	0	Static
9114	Morgan & Edwards	0	160	0	0	0	Static
9115	Needmore Ranch	0	785	785	0	0	Static
9117	Downey Lakes	0	288	52	0	40	Static
9118	East Jelm Mountain	410	990	0	0	0	Static
9119	Holland Lease	440	0	0	0	0	Downward
9120	Sunrise Creek	560	460	0	0	0	Downward
9121	Palmer	0	160	0	0	0	Static
9122	Werner	0	20	17	0	0	Static
9123	Halleck Canyon	0	685	0	0	0	Static
9124	Bosler Canal No. 3	0	120	0	0	0	Static
9126	Bone Creek	1,580	2,900	0	0	0	Upward
9127	Leona Prager	840	40	0	0	0	Static
9128	R. O. Corporation	353	2,141	331	0	0	Static

TABLE LVGR AP-2 (Continued)

CURRENT ECOLOGICAL CONDITION AND TREND ON PUBLIC LAND IN THE MEDICINE BOW LIVESTOCK GRAZING EIS AREA

Allotment		Current Ecological Condition[1] (acreage)					Current Estimated Trend[3]
Number	Name	Excellent	Good	Fair	Poor	Unclassified[2]	
9129	Red Mountain	0	78	0	0	0	Static
9130	Buford	0	0	110	0	0	Static
9131	Dale Robbins	0	959	0	0	0	Static
9132	James Robbins	0	2,489	470	0	0	Static
9133	Green Creek	0	564	0	0	0	Downward
9134	Holaday Place	0	185[4]	63[4]	0	7	Upward[5]
9135	Badger Creek	0	273	40	0	40	Static
9136	Twenty Mile Draw	812	3,764	401	0	0	Static
9137	Chislo Ranch	80	1,840	0	0	0	Static
9138	Lookout Ranch	0	2,782	752	0	0	Downward
9139	Sand Creek Land & Livestock	0	736	184	0	0	Static
9140	Sanders	0	0	77	0	0	Static
9141	Mule Creek	0	1,209	197	0	27	Static
9142	Sheep Mountain Ranch	0	2,057	3,086	0	0	Static
9145	Boot Heel	0	1,520	0	0	0	Static
9147	Sommers	0	1,824	0	0	0	Upward
9148	Springfield Ranch Inc.	328	712	0	0	0	Static
9149	Sterrett	0	96	24	0	0	Static
9150	Meiser Lake-Lookout	3,126	6,153	311	0	0	Static
9151	North Laramie-North Creek	448	1,570	224	0	0	Static
9152	Coyote Canyon	280	0	0	0	0	Static
9153	Sellers Mountain	1,470	1,370	0	0	0	Upward
9154	Meiser Creek	260	1,366	0	0	0	Static
9155	McFarlane Creek	0	916	392	0	0	Upward
9156	Duck Creek	0	592	0	0	0	Static
9157	T-K Ranch	0	1,010	252	0	0	Static
9158	Talbott	0	48	72	0	0	Static
9159	Tatman Original	795	325	0	0	0	Static
9160	Hirsig Place	660	1,016	0	0	0	Static
9161	Dirt Farm	0	320	0	0	0	Static
9163	Swan	0	3,753	0	0	0	Static
9164	Three D's & T	0	1,446	110	0	0	Static
9165	Little Laramie River	0	0	675	0	0	Static
9166	I-80 Overpass	0	0	178	0	0	Static
9167	Canyon Creek	0	160	0	0	0	Static
9168	Mud Springs	1,271	6,206	955	39	0	Downward

TABLE LVGR AP-2 (Continued)

CURRENT ECOLOGICAL CONDITION AND TREND ON PUBLIC LAND IN THE MEDICINE BOW LIVESTOCK GRAZING EIS AREA

Allotment		Current Ecological Condition[1] (acreage)					Current Estimated Trend[3]
Number	Name	Excellent	Good	Fair	Poor	Unclassified[2]	
9169	Wallrock Creek	0	665	665	0	0	Static
9170	Warren Livestock "A"	0	2,869	717	0	0	Static
9171	Warren Livestock "B"	0	160	40	0	0	Static
9173	Dutton Creek	0	0	643	0	0	Static
9174	Marius Willadsen	0	40	0	0	0	Static
9175	Williams Land & Livestock	0	1,096	0	0	0	Static
9176	Merril Draw	0	981	420	0	0	Static
9178	Kirk Ranch Natrona	0	280	1,120	0	0	Downward
9179	Yankee Draw	767	982	0	0	28	Static
9181	Indian Rock	136	1,633	0	0	170	Static
9182	Chimney Rock	0	1,023	0	0	0	Downward
9183	Laramie Peak BGWR	0	40	0	0	0	Static
9184	J. Kennedy's	100	860	0	0	0	Static
9185	North Laramie River	0	83	0	0	0	Static
9186	Flat Top	0	600	0	0	0	Static
9187	China Wall	0	312	728	0	0	Static
9188	South Meiser Creek	0	382	884	0	0	Static
9189	George Creek	0	0	0	0	0	Static
9190	NE Flying X	0	621	0	0	0	Static
9191	Plumbago	0	890	0	0	0	Static
9192	Section 22	100	540	0	0	0	Static
9193	Sawmill	620	120	0	0	0	Static
9194	Bluegrass	0	1,560	0	0	0	Static
9195	Sugar Loaf	0	560	0	0	0	Static
9196	Holman	40	40	0	0	0	Static
9197	Desert	0	224	96	0	0	Static
9198	Tunnel Road	75	46	0	0	0	Static
9199	East Sheldon	0	0	0	0	0	Static
9202	Lookout Peak	0	2,265	566	0	0	Static

TABLE LVGR AP-2 (Continued)

CURRENT ECOLOGICAL CONDITION AND TREND ON PUBLIC LAND IN THE MEDICINE BOW LIVESTOCK GRAZING EIS AREA

Allotment		Current Ecological Condition[1] (acreage)					Current Estimated Trend[3]
Number	Name	Excellent	Good	Fair	Poor	Unclassified[2]	
9203	Upper Pine Ridge	0	2,693	673	0	0	Upward
9204	Grant Creek	0	40	0	0	0	Static
9205	Goat Mountain	0	640	0	0	0	Static
	Totals for Medicine Bow Grazing EIS Area	**60,958**	**572,754**	**295,764**	**11,394**	**64,814**	

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[1] Except where otherwise noted, estimates are based on the Missouri River Basin range survey of 1962 and on professional judgment.

[2] Acreage includes lands for which no range condition classification was determined, such as woodland, rock outcrops, playas, lakes, and mountain mahogany.

[3] Long-term trend in ecological condition of the federal acreage in each allotment. Based on the Missouri River Basin range survey of 1962 and on professional judgment except where otherwise noted.

[4] Estimates are based on the 1986 Medicine Bow Resource Area range inventory.

[5] Long-term trend in ecological condition of the federal acreage in each allotment. Based on the 1986 Medicine Bow Resource Area range inventory.

[6] Allotments that are administered by the Casper District that have federal acreage lying in both the Rawlins and Casper districts. The allotment statistics presented in this table represent only the portions of the allotments that lie in the Rawlins District.

to management changes, conflicts with other uses, the current management situation, the economic feasibility of implementing changes in grazing management, and allotment size and land pattern. These are based on current BLM policy, which can be found in BLM Washington Office Instruction Memorandum 82-292, which is on file at the office of the Medicine Bow and Divide resource areas.

Each criterion was rated independently by resource specialists familiar with the allotment. Each specialist recommended placement of each allotment into one of three management categories: "M" (maintain existing resource conditions), "I" (improve resource conditions), or "C" (custodial management). The allotment categories are described in a later section. Finally, the ratings and recommendations of the interdisciplinary team were reviewed by the area manager, who made a tentative determination on how each allotment would be categorized.

The selective management category for an allotment may be changed as additional information becomes available through monitoring or as satisfactory management activities are implemented in accordance with criteria or other information set forth in the plan. Updates of selective management strategies will be made available through the range program summary (RPS) and RPS updates following completion of the final RMP/EIS.

The category of each allotment is indicated in table LVGR AP-1, which also contains other information about the individual allotments.

Criteria for Each Category

The following sections detail the criteria used for each allotment category. Factors for each criterion appear in smaller type.

Category "M": Maintain Existing Resource Conditions

Criterion A and Factors

Analysis of the allotment indicates that there are no significant problems.

Ecological site inventory results indicate that vegetative production cannot be significantly improved, key species are present in desirable amounts, and species composition indicates good range condition, or better.

Allotment evaluation indicates proper utilization, static or upward trend, and average good to excellent condition of the vegetative resource, considering the needs of all major foraging animals and other wildlife.

Allotment analysis shows no significant forage competition between livestock and wildlife and indicates that sufficient forage is available to maintain present levels of livestock and big game management objective levels.

Criterion B and Factors

No obvious or significant management problems are evident on the allotment.

The distribution of grazing animals cannot be significantly improved. No significant problems exist around wetlands, riparian areas, and meadows.

Turnout dates and season of use are consistent with range readiness and sound range management principles.

There are no significant grazing management problems caused by noncompatible land uses.

Criterion C and Factors

Allotment is judged to have potential for high vegetative productivity and is producing at a high level.

Analysis of the allotment's soil survey information indicates potential for high productivity in the various range sites, as per Soil Conservation Service (SCS) range site guides.

Analysis of the allotment's vegetative composition information indicates that current vegetative productivity by range site is near the potential, as indicated by SCS range site guides.

Criterion D

There is a potential for positive economic return on public investment.

Management Actions

The BLM's management objective will be to take or authorize actions that will maintain or improve current balanced use, range condition, and productivity without damage to existing resources, as follows:

> Livestock use (numbers, kind, season of use) will be permitted as authorized under a ten-year permit. Adjustments in use may occur when allotment analysis indicates there is an increase or decrease in forage and if such action is consistent with multiple-use objectives.
>
> Prescribed flexibility in livestock operations through consultation will be allowed. Prescribed flexibility is the deviation from the normal livestock operation regarding items such as proper season of use and number and kind of livestock. This flexibility will be permitted within the limits of active preference (the portion of a grazing preference authorized for active use by a grazing permit)

or as agreed to in a cooperative management agreement (CMAs) or an allotment management plan (AMP). Flexibility will be determined through consultation and documented in the terms and conditions of permits, leases, CMAs, or AMPs.

Range improvements will be authorized to meet objectives defined in plans with specific range or wildlife objectives such as AMPs, habitat management plans (HMPs), cooperative resource management plans, forest management plans (FMPs), and endangered species recovery plans.

The BLM will conduct low- to high-intensity monitoring, depending on the value of all resources in the allotment. Monitoring will be more intensive on allotments on which any or all of the criterion A factors have been evaluated as "borderline."

Principal Sources of Funding

Private investment in range improvements

Range betterment funds (8100)

Funding appropriated under the Federal Land Policy and Management Act (FLPMA) and the Public Rangelands Improvement Act (PRIA).

Category "I": Improve Resource Conditions

Criterion A and Factors

Analysis of the allotment indicates that one or more significant problems exist. These may be range condition, conflicts with wildlife or other grazing animals, lack of water, and poor distribution of grazing animals, other land uses that interfere with livestock operations, or present range management practices that will not resolve the significant problem(s).

Ecological site inventory results indicate that vegetative production can be improved, key species are not present in satisfactory amounts, and species composition indicates fair or poor range condition.

Allotment evaluation indicates that utilization, trend, and condition of the vegetative resource can be improved.

Allotment analysis shows significant forage competition between grazing animals or other significant wildlife conflict. Analysis also indicates that sufficient forage is not available to support present levels of livestock and management objective levels of big game, and/or that forage does not provide the basic needs of resident priority wildlife species.

Criterion B and Factors

Present grazing management practices are inadequate to meet long-term resource objectives.

The distribution of grazing animals could be improved. Significant problems exist around wetlands, riparian areas, meadows, or crucial wildlife habitat.

Turnout dates and season of use are not consistent with range readiness and sound range management principles.

Significant conflicts with other land uses are evident.

Criterion C and Factors

Allotment is judged to have potential for high vegetative productivity but is not producing at or near potential.

Analysis of allotment's soil survey information indicates potential for high productivity in the various range sites, as per SCS range site guides.

Analysis of the allotment's vegetative composition information indicates that current vegetative productivity by range site is below the potential as indicated by SCS range site guides.

Criterion D

There is a potential for positive economic return on public investments.

Management Actions

The BLM's immediate management objective will be to implement actions that will improve current range condition and productivity and enhance multiple use, as follows:

The BLM will conduct variable (up to high) intensity use supervision and monitoring. Monitoring will evaluate vegetative production, utilization, and trend and other information necessary to develop management objectives. After plans are developed, monitoring will evaluate the effectiveness of actions taken toward achieving the objectives.

Livestock use may be increased or decreased as indicated after monitoring data are evaluated, and if such changes are consistent with multiple-use management. Changes in livestock management (including turnout dates, season of use, and kind of livestock) may be implemented if such changes are consistent with multiple use management and will meet established objectives.

Range improvements will be authorized and installed as need is indicated through monitoring or to implement management plans as they are developed.

Principal Sources of Funding

Private investment in range improvements

Range betterment funds (8100)

Funding appropriated under FLPMA and PRIA

Factors used in "I" category allotments are listed by allotment in table LVGR AP-3.

Category "C": Custodial Management

There are virtually no allotments in the Medicine Bow EIS area with such low potential for vegetative production and in such poor condition that attempts at improving that condition would be physically infeasible. However, there are allotments with landownership patterns that negate the possibility for economic return on federal investment in range improvements. The criteria outlined below for placing allotments into this category will be applied in the following way: (a) The landownership pattern will be evaluated as to whether federal investment in

TABLE LVGR-AP-3

FACTORS USED IN PLACEMENT OF ALLOTMENTS IN CATEGORY "I"

No.	Allotment Name	Factor[1]								
		1	2	3	4	5	6	7	8	9
0301	Pathfinder	X	X	—	X	X	X	—	X	X
0303	Canyon Creek	X	X	—	X	X	—	X	X	X
0306	Kirk Ranch	X	X	—	X	X	—	X	X	X
0307	Bates Hole	X	X	—	X	X	—	X	X	X
0309	Moss Agate	X	X	—	X	—	—	X	X	X
0310	Antelope Springs	X	X	—	—	—	—	X	X	X
0311	Bates Benchmark	X	X	—	X	—	—	X	X	X
0312	7E Ranch	X	X	—	X	X	X	X	X	X
0315	Indian Springs	X	X	—	X	X	X	X	X	X
0318	Shirley Ridge	X	X	—	X	X	—	X	X	X
0319	Little Medicine	X	X	—	X	X	X	X	X	X
0320	Leo	X	X	—	X	X	X	X	X	X
0321	Dry Creek	X	X	—	X	X	—	X	X	X
0323	Black Canyon	X	X	—	X	X	X	X	X	X
0324	Palmer-Nelson	X	X	—	X	X	—	X	X	X
0326	Beaver Creek	X	X	—	X	—	—	X	X	X
0327	School Section	X	X	—	X	X	—	—	X	—
0328	Sullivan	X	X	—	X	X	—	X	X	X
0329	Lost Creek	X	X	—	X	X	—	X	X	X
0330	House Gulch	X	X	—	X	X	—	X	X	X
0331	Upper Lost Creek	X	X	—	X	X	—	—	X	X
0332	Thornton Place	X	X	—	X	X	—	X	X	X
0333	South Bennett North	X	—	—	X	X	—	—	X	X
0334	Corral Creek	X	X	—	X	X	—	—	X	X
0335	Shirley Mountain	X	X	—	X	X	—	X	X	X
0337	Bunker	X	X	—	X	X	—	—	X	X
0340	Horse Springs	X	—	—	X	—	—	—	X	X
0827	Pass Creek Ridge	—	—	—	X	X	—	—	X	X
0832	North Anschutz	—	X	—	X	X	—	—	X	X
0868	V U	—	X	—	X	X	—	—	X	X
1001	A Bar A Ranch	X	X	—	X	—	—	X	X	X
1003	Corral Creek	—	X	X	X	X	—	—	X	X
1004	Bennett Peak	—	—	X	—	X	X	—	—	X
1008	Finch Ranch	—	X	X	X	X	—	—	—	X
1010	Herring & Herring	—	—	X	X	—	—	—	—	X
1011	A. R. Huston	—	X	—	X	X	—	—	—	X
1013	Tennant Creek	—	X	—	X	X	—	—	—	X
1015	Flying Diamond	—	X	X	—	—	—	—	X	X

TABLE LVGR-AP-3 (Continued)

FACTORS USED IN PLACEMENT OF ALLOTMENTS IN CATEGORY "I"

		Factor[1]								
No.	**Allotment Name**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
1017	Cottonwood	—	X	X	X	X	—	—	—	X
1019	Albert H. Oldman	X	X	—	X	—	—	X	—	—
1021	Platt	—	—	—	X	X	—	—	—	X
1022	Romios Ranch	—	X	X	X	—	—	—	X	X
1023	Arthur Rouse	—	—	X	—	—	—	—	X	X
1029	Saulcy	—	—	X	X	X	—	—	—	X
1036	Cottonwood Corral Creek	—	X	—	X	X	—	—	X	X
1048	Kennaday	—	X	—	X	X	—	—	X	X
9021	Bovee	—	X	—	X	X	—	—	X	X
9035	Chalk Hills Dry Creek	X	X	—	X	X	—	X	X	X
9040	Parsons Creek	X	X	—	X	X	—	X	X	X
9061	Warren George	X	X	—	X	X	—	—	X	X
9096	Boswell Ranch	—	X	—	X	X	—	—	—	X
9118	East Jelm Mountain	—	X	—	X	X	—	—	—	X
9119	Holland Lease	—	X	—	X	X	—	—	—	X
9120	Sunrise Creek	—	X	—	X	X	—	—	—	X
9178	Kirk Ranch Natrona	X	X	—	X	X	X	X	X	X

[1] Factor 1 means ecological site inventory results indicated that vegetative production could be improved. Factor 2 means allotment evaluation indicated that utilization, trend, and condition could be improved. Factor 3 indicates allotment analysis showed significant forage competition or other significant conflicts with wildlife. Factor 4 indicates the distribution of grazing animals could be improved. Factor 5 indicates turnout dates and season of use are a problem. Factor 6 indicates significant conflicts with other land uses are evident. Factor 7 indicates a potential for high productivity is evident. Factor 8 indicates current vegetation productivity is below the potential. Factor 9 indicates potential exists for positive economic return from investment in range improvement projects.

range improvements is economically feasible; and (b) the allotments will be evaluated for the presence of critical resource conflicts and the public concern for the resources on the allotment. The latter criterion will be overriding in that if such critical conflicts and concerns are evident, the allotments will not be placed in category "C."

Criterion A and Factors

Federal investment is not feasible because there is no potential for economic return on investment of public funds.

The landownership and land-use pattern within and surrounding the allotment has one or more of the following features, which would negate effectiveness and profitability of public investment.

> The public land pattern is isolated and/or noncontiguous tracts.
>
> Existing or imminent nonconforming land use (such as subdivisions) borders the public land to the extent that management changes would not meet multiple-use objectives.

The allotment has little or no potential for vegetative improvement.

Criterion B and Factors

The allotment has no critical resource conflicts.

There are no legislatively protected or mandated resources such as endangered species, wetlands, riparian areas, or wild horses in the allotment.

There has been no significant expression of public concern for the resources in the allotment.

Objective for "C" Allotments

The objective for "C" allotments is to manage allotments custodially while protecting existing resource values and to eliminate the situation causing the lack of positive economic return on public investment. Until these situations are eliminated, interim management will be necessary. Redesignation or elimination of allotments in category "C" would be accomplished by the following actions:

Changing fence locations to consolidate several small individual allotments into one common use area large enough to have management alternatives.

Implementing land exchanges to consolidate public lands into manageable size units and/or provide contiguous landownership for cost-effective improvement practices.

Management Actions

The BLM will conduct low-intensity use supervision and monitoring. Monitoring will focus on changes in ownership or livestock operations.

Adjustments will be made in numbers and season of use where necessary to prevent deterioration of present resource conditions.

Principal Sources of Funding

Private investment in range improvements

Range betterment funds (8100)

Funding appropriated under FLPMA and PRIA

RANGE IMPROVEMENTS

The types of range improvements proposed in the alternatives of this document are described below.

Spring Developments

Spring development would consist of excavating the spring source and installing a cylindrical corrugated metal pipe headbox approximately 3 feet in diameter by 3 feet high to collect water, which would then be piped to a trough. The pipe is usually of plastic 1.25 inches in diameter, and it is normally buried. Sufficient water would be left at the original spring for wildlife and to ensure that the meadow would not dry up. Overflow water from the trough would be piped back to the original drainage course. The spring would be fenced for protection of soil and vegetation. Each spring development would disturb about 0.5 acre. If the spring is located in a wilderness study area, development will be carried out in a manner that will not impair wilderness characteristics.

Water Developments

Troughs, an integral part of all proposed water systems, usually consist of either an 18-foot diameter circular concrete base with metal sides or a 12-foot by 3-foot (Powder River type) rectangular metal structure. All troughs would include a ramp so that small birds and mammals could escape. Construction would disturb approximately 0.2 acre per trough.

Wells

Well construction would consist of drilling and casing a hole to the aquifer. Pump facilities would include a gasoline engine and pumpjack, an electric submersible pump, or a windmill. Motorized pump facilities generally would be located in a small protective shed over the wellhead. The facility could be designed with a water storage tank. Construction would disturb about 0.5 acre per well site for motorized pump facilities and about 1 acre per well site for windmill pump facilities.

Reservoirs

Reservoirs constructed would be of two basic types, dike or retention dams and pit types. The dike type reservoir is generally placed on drainages. Construction would consist of moving fill material immediately above the dike or from a nearby source to create a dam structure. A spillway would be provided for overflow.

Pit type reservoirs would be constructed on shallow drainages, basins, or dry lake beds. Construction could consist of digging a pit to a predetermined size, depending on surface water availability.

Ideally, reservoirs should be large enough and deep enough to hold water throughout the grazing season. Surface area could vary from 1 acre (which would disturb a total of about 1.5 acres) to 5 acres (which would disturb a total of 7 acres). The average reservoir would contain approximately 8 acre-feet of water, with a depth of 10 feet when full. All reservoirs would be fenced, and water would be piped to a trough nearby. A 1-acre reservoir would require approximately ¼ mile of fence; a 5-acre reservoir would require approximately ½ mile of fence.

In areas where topography and other conditions present the opportunity to create reservoirs of sufficient size and depth to support a stocked trout fishery (generally more than 5 acres surface area and 10 to 15 feet deep), these reservoirs would be constructed in cooperation with the wildlife program. Such reservoirs would require up to 1 mile of fence, and livestock water would be piped to a trough nearby.

Pipelines

Pipelines would carry water from wells to seedings or other areas that lack an adequate water supply. Generally, plastic pipe 1.5 to 2.5 inches in diameter would be buried with a pipe-laying device consisting of a modified ripper tooth mounted on a tractor. The pipe is normally laid 30 inches below the surface. Water troughs would be installed approximately every mile along the pipeline. Approximately 1 acre per mile would be disturbed during construction.

Fences

Fencing is proposed to facilitate implementation of grazing systems and to protect riparian habitat. Where major antelope migration routes occur, fences would be constructed according to BLM specifications for antelope passage. Approximately 1 acre per mile would be disturbed by fence construction.

Cattleguards

Where traffic warrants, cattleguards would be located where fences cross roads. Cattleguards generally are 8 feet wide and 12 to 24 feet long, depending on traffic type and pattern.

Land Treatments

Vegetation manipulation could be accomplished by various methods such as spraying, burning, and plowing. Treatment methods are determined by vegetation composition and age class, soil surface characteristics, terrain, slope, precipitation, conflicts with other resources, cost effectiveness, and legal constraints.

After treatment, a rangeland drill or aircraft would be used to seed the area artificially with high-value introduced forage species adapted to local conditions. The area would then be rested until seedlings are firmly rooted enough to resist pull-up from grazing.

Spraying

Chemical control of sagebrush usually consists of spraying the plants with 2,4-D from an airplane or by ground application. Spraying decreases shrub competition while preserving existing grasses, but it also affects forbs and desirable shrubs. Spraying is the most effective technique for killing sagebrush. It leaves the grass seedbed undisturbed and creates a better environment for subsequent drilling and seed germination, and it minimizes soil erosion.

Burning

Prescribed burning is the carefully planned use of fire to control unwanted vegetation. Burning often is the most inexpensive treatment method, and it is widely applicable. However, it requires sufficient fuel and can be used only during ideal conditions; that is, when temperature, humidity, wind, and other factors are right. If fuels are sparse or patchy, burning can leave some areas untreated. Burning also carries the risk of wildfire. However, with careful planning and application, this risk can be minimized.

Plowing

Plowing consists of pulling a heavy-duty multiple-disk plow through the soil, destroying 90% to 95% of the shrub cover but also most of the desirable grasses and forbs. Plowing is more precise than other methods for leaving untreated areas within or adjacent to treated areas, but it is more expensive, causes greater ground disturbance, and cannot be used in rough, rocky areas.

In-stream Structures

In-stream structures are primarily gabions or check dams of rocks or logs placed in streams and ephemeral water sources to slow water flow and diminish erosion. Structures placed in flowing streams would be designed to form splash pools below the dams or gabions to improve fish habitat.

Proposed range improvements by allotment are listed in table LVGR AP-4.

GRAZING TREATMENTS

Introduction

Livestock grazing AMPs prepared as part of the management actions for Alternatives B, C, and D would include one or more of the grazing treatments described in this section. Grazing treatments are designed to improve the rangeland vegetation by providing the key management species with a period of uninhibited growth.

Incorporating the various grazing treatments into a rotation, rest, or deferred grazing system allows the manager to manipulate livestock grazing to meet the growth requirements of the key species and to break up a pattern of continuous use. Absence of livestock during the critical growth period gives the plants an opportunity to increase in density, composition, vigor, and production. The following grazing treatments, singly or in various combinations, would be combined with scheduled grazing to form management systems on allotments in the Medicine Bow grazing EIS area.

Deferred Grazing

Early Spring to Late Spring

Deferring livestock grazing from early spring to late spring (approximately April 1 to June 15) would allow plants to increase in vigor, litter, seed production, and seedling establishment. The following key species would benefit from this treatment: needle-and-thread, Indian ricegrass, Great Basin wildrye, Idaho fescue, Columbia needlegrass, upland sedges, and riparian zone species.

Late Winter to Late Summer

Deferring livestock grazing from late winter to late summer (approximately April 1 to August 15) would provide the same benefits as the above 1 treatment, but the benefits would be to plants that have a longer growing season. All key forage species, as well as riparian plant communities, would benefit from this treatment.

Complete Rest

Complete rest for one full year from late winter to late winter (approximately March 1 to March 1) would provide the plants with a full year of uninhibited growth. All plants would benefit through increased size, vigor, production, and storage of nutrients required for future growth and seed production.

Sixteen Months' Rest

Deferring livestock grazing from late winter of one year to midsummer of the following year (16 months' rest from approximately March 1 to July 15 of following year) would benefit all key management species, especially riparian areas and mountain browse shrubs, by promoting seed production on two-year-old woody growth in the second year and by providing for trampling of seed. Two growing seasons of rest would allow the other key management species to increase vigor, litter accumulation, seed production, and seedling establishment.

Midsummer to Fall Grazing

Livestock grazing from midsummer to fall (approximately July 15 to November 1) would provide better seed dispersal and trampling. If this treatment was coupled with other treatments that allow spring rest the following year, increased seedling establishment would result.

TABLE LVGR-AP-4

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment No.	Allotment Name	Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
Alternative B													
0003	Bates Creek	yes	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0040	Marton	yes	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0047	Lone Tree	yes	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0061	Squaw Mountain	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0216	Taylor-Powder Horn	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0261	Gallagher	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0289	Horr	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0301	Pathfinder	yes	no	5.00	2	0	0.0	0	0	0	0	0.0	0
0302	Little Canyon Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0303	Canyon Creek	yes	no	0.00	1	0	0.0	0	0	3,437	0	0.0	0
0305	Camp Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0306	Kirk Ranch	yes	no	1.50	0	0	1.0	0	0	0	0	0.0	0
0307	Bates Hole	yes	no	0.00	2	0	0.0	0	0	0	0	0.0	2
0309	Moss Agate	no	no	0.00	1	0	0.0	0	0	0	0	0.0	0
0310	Antelope Springs	yes	no	4.25	2	0	0.0	0	0	0	0	0.0	0
0311	Bates Benchmark	yes	no	0.00	0	1	0.0	1	0	0	0	0.0	1
0312	7E Ranch	yes	no	7.00	2	0	0.0	0	0	0	0	0.0	1
0315	Indian Springs	yes	no	0.00	5	0	0.0	2	0	1,000	0	0.0	3
0316	Dry Creek Rim	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0317	Upper Dry Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0318	Shirley Ridge	yes	no	2.00	1	1	0.0	2	300 ft.	500	0	0.0	1
0319	Little Medicine	yes	no	0.00	0	2	0.0	0	0	1,000	0	0.0	3
0320	Leo	yes	no	9.00	1	2	0.0	0	0	0	0	0.0	0
0321	Dry Creek	yes	no	2.50	3	0	0.0	1	300 ft.	774	0	0.0	0
0322	Spring Creek	yes	no	0.00	0	0	0.0	0	0	1,500	0	0.0	0
0323	Black Canyon	no	yes	3.50	2	0	0.0	2	0	0	0	13.5	0
0324	Palmer-Nelson	yes	no	0.00	1	0	0.0	4	0	1,000	0	1.0	0
0325	Cady	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0326	Beaver Creek	yes	no	0.00	0	0	0.0	2	0	500	0	0.0	0
0327	School Section	yes	no	1.00	0	0	0.0	0	0	0	0	0.0	0
0328	Sullivan	yes	no	10.00	6	0	5.5	5	0	10,000	0	2.5	10
0329	Lost Creek	no	yes	1.50	0	0	0.0	0	0	500	0	0.5	3
0330	House Gulch	yes	no	0.00	0	0	0.0	0	0	1,800	0	0.0	0
0331	Upper Lost Creek	yes	no	0.00	0	0	0.0	1	0	461	0	0.0	0
0332	Thornton Place	yes	no	0.00	0	0	1.0	0	0	500	0	0.0	1
0333	South Bennett North	yes	no	2.00	0	0	0.0	0	0	2,000	0	0.0	1
0334	Corral Creek	yes	no	8.00	0	0	0.0	1	0	2,500	0	0.0	2
0335	Shirley Mountain	no	yes	14.00	0	0	0.0	0	0	1,500	0	5.0	0
0336	Mud Springs	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0337	Bunker	yes	no	0.00	2	0	0.0	2	600 ft.	200	0	0.0	1

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment No.	Allotment Name	Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
0339	Grasshopper	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0340	Horse Springs	yes	no	0.00	2	0	0.0	1	0	100	0	0.0	0
0351	Edwards	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0361	Wilson	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0364	Milo	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0399	Peterson	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0452	Strock	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0524	Rock Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0801	South Bennett South	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0802	Tennant Place	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0803	Horseshoe Ridge	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0804	South Austin Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0805	East Seminoe	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0806	Schneider Ridge	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0807	East Schneider Ridge	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0808	T. E. Ranch	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0809	Medicine Bow	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0810	RR 30	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0811	Ellis Block	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0812	Freezeout	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0813	Oil Springs	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0814	T B Flats D. M.	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0817	Little Medicine Bow	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0818	T B Flats	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0819	North Walcott	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0820	Quealey Block	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0821	South Seminoe	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0822	Dana Block North	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0824	North Area	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0825	Slate Ridge	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0826	Robbers Roost	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0827	Pass Creek Ridge	yes	no	0.00	4	0	0.0	0	0	1,000	0	5.0	0
0828	Wilson Pasture	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0829	Dana Meadows South	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0830	Chace Block	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0831	Third Sand Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0832	North Anschutz	yes	no	4.00	3	0	0.0	0	0	500	0	0.0	0
0833	East Allen Lake	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0834	Foote Creek Pasture	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0836	Pine Ridge	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0838	South Walcott	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0839	Lone Tree Allotment	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment		Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
No.	Name												
Alternative B (Continued)													
0840	Soil Bank Pasture	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0841	Peterson Ranch	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0842	Wolfe	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0843	Meads	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0844	Pass Creek Flats	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0845	T. A. Ranch	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0846	Coyote Ditch	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0847	Home Pasture	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0848	Rattlesnake	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0849	Midland	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0850	Home Ranch	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0851	West Elk Mountain	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0853	U.L.	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0854	South Anchutz Block	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0855	Arlington	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0856	Pine Ridge	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0857	Bailey	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0858	Three Mile Tract	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0859	Coalbank Mine	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0860	Upper Bear Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0861	Corpening	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0862	Lake Creek Flats	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0863	North Lake Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0864	Sixmile Hill	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0865	Lake Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0866	Buck Springs Draw	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0867	Petry, 4900	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0868	V U	yes	no	0.00	0	1	0.0	1	0	1,300	0	0.0	1
0869	Cedar Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0870	East Coad Mountain	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0871	Basin Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0872	Overland Trail	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0873	Dixon Block	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0875	Cooper Hill	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0876	Seven Mile	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0877	Miller	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0878	County Line	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
0879	Lonesome Fox	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1001	A Bar A Ranch	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
1002	Anderson Reservoir	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1003	Corral Creek	yes	no	0.00	0	0	0.0	0	0	1,000	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment No.	Allotment Name	Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
Alternative B (Continued)													
1004	Bennett Peak	yes	no	0.00	0	0	0.0	0	0	1,000	0	0.0	0
1005	Wood Hill	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
1006	Silver Spur Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1007	Robert A Dynes	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
1008	Finch Ranch	yes	no	0.00	0	0	0.0	2	0	500	0	0.0	0
1009	Cherokee Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1010	Herring & Herring	yes	no	0.00	0	0	0.0	2	0	500	0	0.0	0
1011	A. R. Huston	yes	no	0.00	1	0	1.0	2	0	200	0	0.0	0
1013	Tennant Creek	yes	no	0.00	1	0	0.0	0	0	200	0	0.0	0
1014	Kraft Ranch	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
1015	Flying Diamond	yes	no	0.75	1	0	0.0	0	0	1,120	0	0.0	0
1016	Norman Merrill	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1017	Cottonwood	no	yes	0.00	1	0	0.0	2	0	100	0	0.0	0
1018	Beaver Creek Hills	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
1019	Albert H. Oldman	yes	no	0.00	0	0	0.0	0	0	250	0	0.0	0
1020	East Fork	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
1021	Platt	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1022	Romios Ranch	yes	no	1.50	0	0	0.0	1	0	600	0	0.0	0
1023	Arthur Rouse	yes	no	0.00	1	0	0.0	0	0	500	0	0.0	0
1024	Beaver Creek Hills	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
1025	Fred Rutschman	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1026	Ryan Ranches	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
1027	Sanger	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
1029	Saulcy	yes	no	0.00	1	0	0.0	2	0	600	0	0.0	0
1031	North Fork	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
1032	Cotton Reservoir	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1033	Antelope Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1034	Wiant	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
1035	Willford Ranches	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
1036	Cottowood Corral Creek	yes	no	0.00	3	0	0.0	0	0	2,000	0	0.0	0
1038	Forster	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1039	Little Beaver Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1041	South Cedar Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
1042	Dufunny	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1043	Beaver Creek South	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
1044	Sowder-McNaney	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
1045	Chad	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
1046	McCoid-Harrison	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
1047	Horn and Meason	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment		Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
No.	Name												
Alternative B (Continued)													
1048	Kennaday	yes	no	0.00	0	0	0.0	1	0	600	0	0.0	0
1049	Prospect Mountain	yes	no	1.00	0	0	0.0	0	0	2,000	0	5.0	3
1050	Platt Mine	yes	no	0.25	0	0	0.0	0	0	200	0	2.0	0
1200	Belvoir Grazing	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
1201	Bowman	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1202	Spring Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1203	Merrill Farthing	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1204	Ferguson Ranch "A"	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
1205	Ferguson Ranch "B"	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
1207	A. E. Hodgson	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1208	Sand Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1209	Lazy D	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1210	Ab. Lorenz	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
1211	McIntyre Draw	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
1212	J. D. McLees	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
1213	James Merritt "B"	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1214	Moritz Brothers, Incorporated	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1215	Soapstone Grazing Association	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
1216	Switzer	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
1218	Lodgepole Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1219	Andres Willadsen	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1220	South of Happy Jack	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
1221	Threemile	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9001	Anchor Ranch	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9002	Anderson	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9003	Associated Enterprises A	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9004	Associated Enterprises B	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9005	Bailey Atkinson	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9006	Ken Atkinson	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9007	Dale Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9008	L. W. Bailey	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9009	WLX	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9011	Bessie Bath	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9012	Bath Brothers	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9013	John & Marie Beli	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9014	Bell-Otte Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9017	The Buttes	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment No.	Allotment Name	Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
Alternative B (Continued)													
9018	North Lodgepole Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9019	Frank Booth	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9020	Bovee Horse Pasture	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9021	Bovee	yes	no	0.00	0	0	0.0	2	0	200	0	0.0	0
9022	Gibbs Place	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9023	Wheatland Tunnel	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9024	Wheatland Reservoir No. 2	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9025	James Lake	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9026	Waechter Canyon	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9027	Woodrow Brow	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9028	Bear Head Mountain	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9029	Indian Rock	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9030	Burnett Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9031	Pinto Rocks	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9032	J. H. Butler	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9033	Carlin Ranch	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9034	Palmer Canyon	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9035	Chalk Hills Dry Creek	yes	no	20.00	6	0	0.0	0	0	500	0	0.0	4
9036	Pine Ridge	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9037	Bull Camp Peak	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9038	Ervin Corl	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9039	Croonberg Ranch	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9040	Parsons Creek	yes	no	2.00	0	0	0.0	0	0	200	0	5.0	0
9041	Davidson Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9042	Cross Isolated Tract	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9043	Owen Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9044	Wheatland Reservoir No. 3	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9045	North Fork	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9046	Dale Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9047	Junction	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9048	Carroll and Carroll	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9049	Double K Ranch	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9050	Dumbell Ranch Company	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9051	Mule-Rogers Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9052	Spring Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9053	Strain	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9054	Woods Landing	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9055	Ferguson Ranch "C"	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment No.	Allotment Name	Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
Alternative B (Continued)													
9056	PR5	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9057	South Fork	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9058	40 Mile Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9059	Charles Garrett	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9060	Sybille Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9061	Warren George	yes	no	0.00	1	0	0.0	1	0	903	0	2.0	0
9062	William Goodrich	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9063	Ed Hall Ranch, Incorporated	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9064	Menter-Rattlesnake	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9066	West Fork	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9067	Antelope Basin	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9068	Rock Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9070	Canyon Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9071	Slate Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9072	Harris Ranch	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9073	Robert Hawley	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9074	Heart B South Pasture	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9075	Heart B North Pasture	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9078	Indian Guide	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9079	Cherry Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9080	JW Ranch, Ltd.	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9081	Coalbank	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9082	Government Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9083	Bamforth	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9084	Johnston Fuel Liners	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9086	Bar M Mountain	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9087	Kennedy	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9089	River Basin	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9090	Dodge Creek Ranch	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9091	Leazenby Lake	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9092	Steamboat Rock	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9093	W. J. Logan	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9094	Irvine, JE & GA	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9095	James Atkinson	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9096	Boswell Ranch	no	yes	0.00	0	1	0.0	2	0	0	0	0.5	0
9098	Rock Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9099	McGill	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9100	Paradise Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment		Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
No.	Name												
Alternative B (Continued)													
9101	Ione	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9102	Sheep Rock	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9103	Pinto Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9104	South Wheatland No. 2	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9105	J. & J. McLaughlin	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9106	Mill Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9107	Poe Mountain-Canyon Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9108	James Merritt "A"	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9109	Strouse Hill	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9110	Plumbago Canyon	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9113	Sheep Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9114	Morgan & Edwards	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9115	Needmore Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9117	Downey Lakes	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9118	East Jelm Mountain	yes	no	0.00	0	0	0.0	2	0	0	0	0.0	0
9119	Holland Lease	yes	no	0.00	0	0	0.0	2	0	100	0	0.0	0
9120	Sunrise Creek	yes	no	0.25	0	0	0.0	2	0	200	0	0.0	0
9121	Palmer	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9122	Werner	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9123	Halleck Canyon	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9124	Bosler Canal No. 3	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9126	Bone Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9127	Leona Prager	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9128	R. O. Corporation	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9129	Red Mountain	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9130	Buford	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9131	Dale Robbins	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9132	James Robbins	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9133	Green Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9134	Holaday Place	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9135	Badger Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9136	Twentymile Draw	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9137	Chislo Ranch	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9138	Lookout Ranch	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9139	Sand Creek Land and Livestock	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9140	Sanders	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9141	Mule Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9142	Sheep Mountain Ranch	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment		Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
No.	Name												
Alternative B (Continued)													
9145	Boot Heel	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9147	Sommers	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9148	Springfield Ranch, Incorporated	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9149	Sterrett	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9150	Meiser Lake-Lookout	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9151	North Laramie-North Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9152	Coyote Canyon	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9153	Sellers Mountain	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9154	Meiser Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9155	McFarlane Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9156	Duck Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9157	T-K Ranch	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9158	Talbott	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9159	Tatman Original	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9160	Hirsig Place	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9161	Dirt Farm	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9163	Swan	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9164	Three D's & T	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9165	Little Laramie River	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9166	I-80 Overpass	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9167	Canyon Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9168	Mud Springs	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9169	Wallrock Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9170	Warren Livestock "A"	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9171	Warren Livestock "B"	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9173	Dutton Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9174	Marius Willadsen	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9175	Williams Land and Livestock	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9176	Merrill Draw	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9178	Kirk Ranch Natrona	yes	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9179	Yankee Draw	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9181	Indian Rock	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9182	Chimney Rock	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9183	Laramie Peak BGWR	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9184	J. Kennedy's	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9185	North Laramie River	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9186	Flat Top	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9187	China Wall	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment		Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
No.	Name												
Alternative B (Continued)													
9188	South Meiser Creek	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9189	George Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9190	Northest Flying X	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9191	Plumbago	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9192	Section 22	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9193	Sawmill	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9194	Bluegrass	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9195	Sugar Loaf	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9196	Holman	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9197	Desert	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9198	Tunnel Road	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9199	East Sheldon	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9202	Lookout Peak	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9203	Upper Pine Ridge	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0
9204	Grant Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9205	Goat Mountain	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
	Totals in the Medicine Bow Grazing EIS Area			**91.00**	**56**	**9**	**8.5**	**48**	**1,200**	**43,745**	**0**	**42.0**	**37**
Alternative C													
0003	Bates Creek	yes	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0040	Marton	yes	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0047	Lone Tree	yes	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0061	Squaw Mountain	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0216	Taylor-Powder Horn	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0261	Gallagher	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0289	Horr	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0301	Pathfinder	yes	yes	5.00	2	0	0.0	0	0	560	0	0.0	0
0302	Little Canyon Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0303	Canyon Creek	yes	yes	0.00	1	0	0.0	0	0	3,437	0	0.0	0
0305	Camp Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0306	Kirk Ranch	yes	no	1.50	0	0	1.0	0	0	0	0	0.0	0
0307	Bates Hole	yes	no	0.00	2	0	0.0	0	0	0	0	0.0	0
0309	Moss Agate	no	no	0.00	1	0	0.0	0	0	0	0	0.0	0
0310	Antelope Springs	yes	no	4.25	2	0	0.0	0	0	0	0	0.0	0
0311	Bates Benchmark	yes	yes	0.00	0	1	0.0	1	0	793	0	0.0	0
0312	7E Ranch	yes	no	7.00	2	0	0.0	0	0	3,000	0	0.0	0
0315	Indian Springs	yes	no	0.00	5	0	0.0	2	0	2,600	0	0.0	0
0316	Dry Creek Rim	no	yes	0.00	0	0	0.0	0	0	0	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment No.	Allotment Name	Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
Alternative C (Continued)													
0317	Upper Dry Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0318	Shirley Ridge	yes	no	2.00	1	1	0.0	2	300 ft.	500	0	0.0	0
0319	Little Medicine	yes	no	0.00	0	2	0.0	0	0	1,000	0	0.0	0
0320	Leo	yes	no	9.00	1	2	0.0	0	0	0	0	0.0	0
0321	Dry Creek	yes	no	2.50	3	0	0.0	1	300 ft.	774	0	0.0	0
0322	Spring Creek	yes	no	0.00	0	0	0.0	0	0	1,500	0	0.0	0
0323	Black Canyon	no	yes	3.50	2	0	0.0	2	0	0	0	0.0	0
0324	Palmer-Nelson	yes	no	0.00	1	0	0.0	4	0	1,000	0	0.0	0
0325	Cady	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0326	Beaver Creek	yes	no	0.00	0	0	0.0	2	0	1,400	0	0.0	0
0327	School Section	yes	no	1.00	0	00	0.0	0	0	0	0	0.0	0
0328	Sullivan	yes	no	10.00	6	1	5.0	5	0	10,000	9,000	0.0	0
0329	Lost Creek	no	yes	1.50	0	0	0.0	0	0	1,000	0	0.0	0
0330	House Gulch	yes	no	0.00	0	0	0.0	0	0	1,800	0	0.0	0
0331	Upper Lost Creek	yes	no	0.00	0	0	0.0	1	0	461	0	0.0	0
0332	Thornton Place	yes	no	0.00	0	0	1.0	0	0	500	0	0.0	0
0333	South Bennett North	yes	no	2.00	0	0	0.0	0	0	2,000	0	0.0	0
0334	Corral Creek	yes	no	8.00	0	0	0.0	1	0	5,170	0	0.0	0
0335	Shirley Mountain	no	yes	14.00	0	0	0.0	0	0	1,000	0	0.0	0
0336	Mud Springs	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0337	Bunker	yes	no	0.00	2	0	0.0	2	600 ft.	200	0	0.0	0
0339	Grasshopper	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0340	Horse Springs	yes	no	0.00	2	0	0.0	1	0	100	0	0.0	0
0351	Edwards	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0361	Wilson	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0364	Milo	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0399	Peterson	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0452	Strock	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0524	Rock Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0801	South Bennett South	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0802	Tennant Place	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0803	Horseshoe Ridge	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0804	South Austin Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0805	East Seminoe	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0806	Schneider Ridge	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0807	East Schneider Ridge	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0808	T. E. Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0809	Medicine Bow	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0810	RR 30	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0811	Ellis Block	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment		Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
No.	Name												
Alternative C (Continued)													
0812	Freezeout	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0813	Oil Springs	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0814	T B Flats D. M.	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0817	Little Medicine Bow	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0818	T B Flats	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0819	North Walcott	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0820	Quealey Block	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0821	South Seminoe	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0822	Dana Block North	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0824	North Area	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0825	Slate Ridge	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0826	Robbers Roost	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0827	Pass Creek Ridge	yes	no	0.00	4	0	0.0	0	0	4,000	0	0.0	0
0828	Wilson Pasture	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0829	Dana Meadows South	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0830	Chace Block	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0831	Third Sand Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0832	North Anschutz	yes	no	4.00	3	0	0.0	0	0	3,000	0	0.0	0
0833	East Allen Lake	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0834	Foote Creek Pasture	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0836	Pine Ridge	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0838	South Walcott	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0839	Lone Tree Allotment	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0840	Soil Bank Pasture	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0841	Peterson Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0842	Wolfe	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0843	Meads	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0844	Pass Creek Flats	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0845	T. A. Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0846	Coyote Ditch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0847	Home Pasture	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0848	Rattlesnake	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0849	Midland	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0850	Home Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0851	West Elk Mountain	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0853	U.L.	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0854	South Anchutz Block	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0855	Arlington	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0856	Pine Ridge	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0857	Bailey Allotment	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment No.	Allotment Name	Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
Alternative C (Continued)													
0858	Three Mile Tract	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0859	Coalbank Mine	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0860	Upper Bear Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0861	Corpening	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0862	Lake Creek Flats	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0863	North Lake Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0864	Sixmile Hill	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0865	Lake Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0866	Buck Springs Draw	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0867	Petry, 4900	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0868	V U	yes	no	0.00	0	1	0.0	1	0	1,300	0	0.0	0
0869	Cedar Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0870	East Coad Mountain	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0871	Basin Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0872	Overland Trail	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0873	Dixon Block	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0875	Cooper Hill	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0876	Seven Mile	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0877	Miller	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0878	County Line	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0879	Lonesome Fox	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1001	A Bar A Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1002	Anderson Reservoir	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1003	Corral Creek	yes	no	0.00	0	0	0.0	0	0	1,000	0	0.0	0
1004	Bennett Peak	yes	no	0.00	0	0	0.0	0	0	500	0	0.0	0
1005	Wood Hill	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1006	Silver Spur Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1007	Robert A Dynes	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1008	Finch Ranch	yes	no	0.00	0	0	0.0	2	0	0	0	0.0	0
1009	Cherokee Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1010	Herring & Herring	yes	no	0.00	0	0	0.0	2	0	0	0	0.0	0
1011	A. R. Huston	yes	no	0.00	1	0	1.0	2	0	200	0	0.0	0
1013	Tennant Creek	yes	no	0.00	1	0	0.0	0	0	200	0	0.0	0
1014	Kraft Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1015	Flying Diamond	yes	no	0.75	1	0	0.0	0	0	560	0	0.0	0
1016	Norman Merrill	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1017	Cottonwood	no	yes	0.00	1	0	0.0	2	0	100	0	0.0	0
1018	Beaver Creek Hills	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1019	Albert H. Oldman	yes	no	0.00	0	0	0.0	0	0	250	0	0.0	0
1020	East Fork	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment No.	Allotment Name	Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
Alternative C (Continued)													
1021	Platt	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1022	Romios Ranch	yes	no	1.50	0	0	0.0	1	0	600	0	0.0	0
1023	Arthur Rouse	yes	no	0.00	1	0	0.0	0	0	500	0	0.0	0
1024	Beaver Creek Hills	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1025	Fred Rutschman	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1026	Ryan Ranches	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1027	Sanger	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1029	Saulcy	yes	no	0.00	1	0	0.0	2	0	600	0	0.0	0
1031	North Fork	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1032	Cotton Reservoir	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1033	Antelope Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1034	Wiant	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1035	Willford Ranches	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1036	Cottonwood Corral Creek	yes	no	0.00	3	0	0.0	0	0	2,000	0	0.0	0
1038	Forster	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1039	Little Beaver Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1041	South Cedar Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1042	Dufunny	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1043	Beaver Creek South	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1044	Sowder-McNaney	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1045	Chad	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1046	McCoid-Harrison	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1047	Horn and Meason	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1048	Kennaday	yes	no	0.00	0	0	0.0	1	0	600	0	0.0	0
1049	Prospect Mountain	yes	no	1.00	0	0	0.0	0	0	2,000	0	0.0	0
1050	Platt Mine	yes	no	0.25	0	0	0.0	0	0	200	0	0.0	0
1200	Belvoir Grazing	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1201	Bowman	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1202	Spring Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1203	Merrill Farthing	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1204	Ferguson Ranch "A"	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1205	Ferguson Ranch "B"	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1207	A. E. Hodgson	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1208	Sand Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1209	Lazy D	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1210	Ab. Lorenz	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1211	McIntyre Draw	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1212	J. D. McLees	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1213	James Merritt "B"	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment No.	Allotment Name	Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
Alternative C (Continued)													
1214	Moritz Brothers, Incorporated	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1215	Soapstone Grazing Association	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1216	Switzer	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1218	Lodgepole Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1219	Andres Willadsen	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1220	South of Happy Jack	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1221	Threemile	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9001	Anchor Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9002	Anderson	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9003	Associated Enterprises A	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9004	Associated Enterprises B	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9005	Bailey Atkinson	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9006	Ken Atkinson	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9007	Dale Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9008	L. W. Bailey	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9009	WLX	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9011	Bessie Bath	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9012	Bath Brothers	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9013	John & Marie Bell	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9014	Bell-Otte Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9017	The Buttes	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9018	North Lodgepole Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9019	Frank Booth	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9020	Bovee Horse Pasture	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9021	Bovee	yes	no	0.00	0	0	0.0	2	0	0	0	0.0	0
9022	Gibbs Place	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9023	Wheatland Tunnel	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9024	Wheatland Reservoir No. 2	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9025	James Lake	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9026	Waechter Canyon	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9027	Woodrow Brow	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9028	Bear Head Mountain	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9029	Indian Rock	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9030	Burnett Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9031	Pinto Rocks	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment No.	Allotment Name	Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
Alternative C (Continued)													
9032	J. H. Butler	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9033	Carlin Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9034	Palmer Canyon	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9035	Chalk Hills Dry Creek	yes	no	20.00	6	0	0.0	0	0	500	2,500	0.0	0
9036	Pine Ridge	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9037	Bull Camp Peak	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9038	Ervin Corl	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9039	Croonberg Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9040	Parsons Creek	yes	no	2.00	0	0	0.0	0	0	200	0	0.0	0
9041	Davidson Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9042	Cross Isolated Tract	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9043	Owen Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9044	Wheatland Reservoir No. 3	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9045	North Fork	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9046	Dale Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9047	Junction	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9048	Carroll and Carroll	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9049	Double K Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9050	Dumbell Ranch Company	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9051	Mule-Rogers Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9052	Spring Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9053	Strain	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9054	Woods Landing	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9055	Ferguson Ranch "C"	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9056	PR5	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9057	South Fork	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9058	40 Mile Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9059	Charles Garrett	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9060	Sybille Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9061	Warren George	yes	no	0.00	1	0	0.0	1	0	903	0	0.0	0
9062	William Goodrich	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9063	Ed Hall Ranch, Incorporated	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9064	Menter-Rattlesnake	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9066	West Fork	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9067	Antelope Basin	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9068	Rock Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9070	Canyon Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment No.	Allotment Name	Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
Alternative C (Continued)													
9071	Slate Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9072	Harris Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9073	Robert Hawley	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9074	Heart B South Pasture	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9075	Heart B North Pasture	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9078	Indian Guide	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9079	Cherry Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9080	JW Ranch, Ltd.	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9081	Coalbank	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9082	Government Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9083	Bamforth	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9084	Johnston Fuel Liners	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9086	Bar M Mountain	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9087	Kennedy	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9089	River Basin	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9090	Dodge Creek Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9091	Leazenby Lake	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9092	Steamboat Rock	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9093	W. J. Logan	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9094	Irvine, JE & GA	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9095	James Atkinson	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9096	Boswell Ranch	no	yes	0.00	0	1	0.0	2	0	0	0	0.0	0
9098	Rock Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9099	McGill	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9100	Paradise Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9101	Ione	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9102	Sheep Rock	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9103	Pinto Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9104	South Wheatland No. 2	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9105	J. & J. McLaughlin	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9106	Mill Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9107	Poe Mountain-Canyon Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9108	James Merritt "A"	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9109	Strouse Hill	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9110	Plumbago Canyon	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9113	Sheep Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9114	Morgan & Edwards	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment No.	Allotment Name	Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
Alternative C (Continued)													
9115	Needmore Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9117	Downey Lakes	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9118	East Jelm Mountain	yes	no	0.00	0	0	0.0	2	0	0	0	0.0	0
9119	Holland Lease	yes	no	0.00	0	0	0.0	2	0	100	0	0.0	0
9120	Sunrise Creek	yes	no	0.25	0	0	0.0	2	0	200	0	0.0	0
9121	Palmer	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9122	Werner	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9123	Halleck Canyon	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9124	Bosler Canal No. 3	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9126	Bone Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9127	Leona Prager	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9128	R. O. Corporation	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9129	Red Mountain	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9130	Buford	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9131	Dale Robbins	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9132	James Robbins	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9133	Green Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9134	Holaday Place	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9135	Badger Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9136	Twentymile Draw	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9137	Chislo Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9138	Lookout Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9139	Sand Creek Land and Livestock	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9140	Sanders	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9141	Mule Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9142	Sheep Mountain Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9145	Boot Heel	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9147	Sommers	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9148	Springfield Ranch, Incorporated	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9149	Sterrett	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9150	Meiser Lake-Lookout	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9151	North Laramie-North Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9152	Coyote Canyon	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9153	Sellers Mountain	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9154	Meiser Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9155	McFarlane Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9156	Duck Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment		Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
No.	Name												
Alternative C (Continued)													
9157	T-K Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9158	Talbott	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9159	Tatman Original	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9160	Hirsig Place	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9161	Dirt Farm	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9163	Swan	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9164	Three D's & T	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9165	Little Laramie River	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9166	I-80 Overpass	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9167	Canyon Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9168	Mud Springs	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9169	Wallrock Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9170	Warren Livestock "A"	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9171	Warren Livestock "B"	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9173	Dutton Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9174	Marius Willadsen	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9175	Williams Land and Livestock	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9176	Merrill Draw	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9178	Kirk Ranch Natrona	yes	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9179	Yankee Draw	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9181	Indian Rock	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9182	Chimney Rock	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9183	Laramie Peak BGWR	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9184	J. Kennedy's	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9185	North Laramie River	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9186	Flat Top	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9187	China Wall	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9188	South Meiser Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9189	George Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9190	Northest Flying X	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9191	Plumbago	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9192	Section 22	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9193	Sawmill	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9194	Bluegrass	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9195	Sugar Loaf	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9196	Holman	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9197	Desert	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9198	Tunnel Road	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9199	East Sheldon	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment No.	Allotment Name	Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
Alternative C (Continued)													
9202	Lookout Peak	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9203	Upper Pine Ridge	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9204	Grant Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9205	Goat Mountain	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
	Totals in the Medicine Bow Grazing EIS Area			**101.00**	**56**	**9**	**8.0**	**48**	**1,200**	**58,308**	**11,500**	**0.0**	**0**
Alternative D													
0003	Bates Creek	yes	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0040	Marton	yes	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0047	Lone Tree	yes	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0061	Squaw Mountain	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0216	Taylor-Powder Horn	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0261	Gallagher	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0289	Horr	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0301	Pathfinder	yes	no	5.00	2	0	0.0	0	0	560	0	0.0	0
0302	Little Canyon Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0303	Canyon Creek	yes	no	0.00	1	0	0.0	0	0	3,437	0	0.0	0
0305	Camp Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0306	Kirk Ranch	yes	no	1.50	0	0	1.0	0	0	0	0	0.0	0
0307	Bates Hole	yes	no	0.00	2	0	0.0	0	00	0	0	0.0	2
0309	Moss Agate	no	no	0.00	1	0	0.0	0	0	0	0	0.0	0
0310	Antelope Springs	yes	no	4.25	2	0	0.0	0	0	0	0	0.0	0
0311	Bates Benchmark	yes	no	0.00	0	1	0.0	1	0	793	0	0.0	0
0312	7E Ranch	yes	no	7.00	2	0	0.0	0	0	3,000	0	0.0	1
0315	Indian Springs	yes	no	0.00	5	0	0.0	2	0	2,600	0	0.0	3
0316	Dry Creek Rim	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0317	Upper Dry Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0318	Shirley Ridge	yes	no	2.00	1	1	0.0	2	300 ft.	500	0	0.0	1
0319	Little Medicine	yes	no	0.00	0	2	0.0	0	0	1,000	0	0.0	3
0320	Leo	yes	no	9.00	1	2	0.0	0	0	0	0	0.0	0
0321	Dry Creek	yes	no	2.50	3	0	0.0	1	300 ft.	774	0	0.0	0
0322	Spring Creek	yes	no	0.00	0	0	0.0	0	0	1,500	0	0.0	0
0323	Black Canyon	no	no	3.50	2	0	0.0	2	0	0	0	0.0	0
0324	Palmer-Nelson	yes	no	0.00	1	0	0.0	4	0	1,000	0	0.0	0
0325	Cady	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0326	Beaver Creek	yes	no	0.00	0	0	0.0	2	0	1,400	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment		Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
No.	Name												
Alternative D (Continued)													
0327	School Section	yes	no	1.00	0	0	0.0	0	0	0	0	0.0	0
0328	Sullivan	yes	no	10.00	6	1	5.0	5	0	10,000	9,000	0.0	10
0329	Lost Creek	no	no	1.50	0	0	0.0	0	0	1,000	0	.5	3
0330	House Gulch	yes	no	0.00	0	0	0.0	0	0	1,800	0	0.0	0
0331	Upper Lost Creek	yes	no	0.00	0	0	0.0	1	0	461	0	0.0	0
0332	Thornton Place	yes	no	0.00	0	0	1.0	0	0	500	0	0.0	1
0333	South Bennett North	yes	no	2.00	0	0	0.0	0	0	2,000	0	0.0	1
0334	Corral Creek	yes	no	8.00	0	0	0.0	1	0	5,170	0	0.0	2
0335	Shirley Mountain	no	no	14.00	0	0	0.0	0	0	1,000	0	5.0	0
0336	Mud Springs	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0337	Bunker	yes	no	0.00	2	0	0.0	2	600 ft.	200	0	0.0	1
0339	Grasshopper	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0340	Horse Springs	yes	no	0.00	2	0	0.0	1	0	100	0	0.0	0
0351	Edwards	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0361	Wilson	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0364	Milo	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0399	Peterson	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0452	Strock	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0524	Rock Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0801	South Bennett South	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0802	Tennant Place	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0803	Horseshoe Ridge	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0804	South Austin Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0805	East Seminoe	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0806	Schneider Ridge	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0807	East Schneider Ridge	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0808	T. E. Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0809	Medicine Bow	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0810	RR 30	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0811	Ellis Block	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0812	Freezeout	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0813	Oil Springs	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0814	T B Flats D. M.	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0817	Little Medicine Bow	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0818	T B Flats	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0819	North Walcott	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0820	Quealey Block	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0821	South Seminoe	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0822	Dana Block North	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0824	North Area	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment		Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
No.	Name												
Alternative D (Continued)													
0825	Slate Ridge	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0826	Robbers Roost	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0827	Pass Creek Ridge	yes	no	0.00	4	0	0.0	0	0	4,000	0	0.0	0
0828	Wilson Pasture	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0829	Dana Meadows South	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0830	Chace Block	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0831	Third Sand Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0832	North Anschutz	yes	no	4.00	3	0	0.0	0	0	3,000	0	0.0	0
0833	East Allen Lake	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0834	Foote Creek Pasture	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0836	Pine Ridge	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0838	South Walcott	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0839	Lone Tree Allotment	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0840	Soil Bank Pasture	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0841	Peterson Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0842	Wolfe	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0843	Meads	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0844	Pass Creek Flats	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0845	T. A. Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0846	Coyote Ditch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0847	Home Pasture	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0848	Rattlesnake	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0849	Midland	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0850	Home Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0851	West Elk Mountain	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0853	U.L.	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0854	South Anchutz Block	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0855	Arlington	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0856	Pine Ridge	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0857	Bailey	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0858	Three Mile Tract	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0859	Coalbank Mine	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0860	Upper Bear Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0861	Corpening	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0862	Lake Creek Flats	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0863	North Lake Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0864	Sixmile Hill	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0865	Lake Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0866	Buck Springs Draw	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0867	Petry, 4900	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment No.	Allotment Name	Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
Alternative D (Continued)													
0868	V U	yes	no	0.00	0	1	0.0	1	0	1,300	0	0.0	1
0869	Cedar Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0870	East Coad Mountain	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0871	Basin Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0872	Overland Trail	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0873	Dixon Block	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0875	Cooper Hill	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0876	Seven Mile	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0877	Miller	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0878	County Line	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
0879	Lonesome Fox	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1001	A Bar A Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1002	Anderson Reservoir	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1003	Corral Creek	yes	no	0.00	0	0	0.0	0	0	1,000	0	0.0	0
1004	Bennett Peak	yes	no	0.00	0	0	0.0	0	0	500	0	0.0	0
1005	Wood Hill	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1006	Silver Spur Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1007	Robert A Dynes	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1008	Finch Ranch	yes	no	0.00	0	0	0.0	2	0	0	0	0.0	0
1009	Cherokee Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1010	Herring & Herring	yes	no	0.00	0	0	0.0	2	0	0	0	0.0	0
1011	A. R. Huston	yes	no	0.00	1	0	1.0	2	0	200	0	0.0	0
1013	Tennant Creek	yes	no	0.00	1	0	0.0	0	0	200	0	0.0	0
1014	Kraft Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1015	Flying Diamond	yes	no	.75	1	0	0.0	0	0	560	0	0.0	0
1016	Norman Merrill	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1017	Cottonwood	no	yes	0.00	1	0	0.0	2	0	100	0	0.0	0
1018	Beaver Creek Hills	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1019	Albert H. Oldman	yes	no	0.00	0	0	0.0	0	0	250	0	0.0	0
1020	East Fork	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1021	Platt	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1022	Romios Ranch	yes	no	1.50	0	0	0.0	1	0	600	0	0.0	0
1023	Arthur Rouse	yes	no	0.00	1	0	0.0	0	0	500	0	0.0	0
1024	Beaver Creek Hills	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1025	Fred Rutschman	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1026	Ryan Ranches	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1027	Sanger	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1029	Saulcy	yes	no	0.00	1	0	0.0	2	0	600	0	0.0	0
1031	North Fork	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1032	Cotton Reservoir	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment No.	Allotment Name	Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
Alternative D (Continued)													
1033	Antelope Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1034	Wiant	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1035	Willford Ranches	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1036	Cottonwood Corral Creek	yes	no	0.00	3	0	0.0	0	0	2,000	0	0.0	0
1038	Forster	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1039	Little Beaver Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1041	South Cedar Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1042	Dufunny	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1043	Beaver Creek South	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1044	Sowder-McNanay	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1045	Chad	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1046	McCoid-Harrison	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1047	Horn and Meason	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1048	Kennaday	yes	no	0.00	0	0	0.0	1	0	600	0	0.0	0
1049	Prospect Mountain	yes	no	1.00	0	0	0.0	0	0	2,000	0	0.0	3
1050	Platt Mine	yes	no	0.25	0	0	0.0	0	0	200	0	0.0	0
1200	Belvoir Grazing	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1201	Bowman	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1202	Spring Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1203	Merrill Farthing	no	no	0.00	0	0	0.0	0	00	0	0	0.0	0
1204	Ferguson Ranch "A"	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1205	Ferguson Ranch "B"	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1207	A. E. Hodgson	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1208	Sand Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1209	Lazy D	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1210	Ab. Lorenz	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1211	McIntyre Draw	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1212	J. D. McLees	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1213	James Merritt "B"	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1214	Moritz Brothers, Incorporated	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1215	Soapstone Grazing Association	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1216	Switzer	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1218	Lodgepole Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1219	Andres Willadsen	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1220	South of Happy Jack	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
1221	Threemile	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9001	Anchor Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment No.	Allotment Name	Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
Alternative D (Continued)													
9002	Anderson	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9003	Associated Enterprises A	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9004	Associated Enterprises B	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9005	Bailey Atkinson	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9006	Ken Atkinson	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9007	Dale Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9008	L. W. Bailey	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9009	WLX	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9011	Bessie Bath	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9012	Bath Brothers	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9013	John & Marie Bell	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9014	Bell-Otte Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9017	The Buttes	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9018	North Lodgepole Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9019	Frank Booth	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9020	Bovee Horse Pasture	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9021	Bovee	yes	no	0.00	0	0	0.0	2	0	0	0	0.0	0
9022	Gibbs Place	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9023	Wheatland Tunnel	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9024	Wheatland Reservoir No. 2	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9025	James Lake	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9026	Waechter Canyon	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9027	Woodrow Brow	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9028	Bear Head Mountain	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9029	Indian Rock	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9030	Burnett Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9031	Pinto Rocks	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9032	J. H. Butler	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9033	Carlin Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9034	Palmer Canyon	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9035	Chalk Hills Dry Creek	yes	no	20.00	6	0	0.0	0	0	500	2,500	0.0	4
9036	Pine Ridge	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9037	Bull Camp Peak	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9038	Ervin Corl	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9039	Croonberg Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9040	Parsons Creek	yes	no	2.00	0	0	0.0	0	0	200	0	0.0	0
9041	Davidson Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment No.	Allotment Name	Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
Alternative D (Continued)													
9042	Cross Isolated Tract	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9043	Owen Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9044	Wheatland Reservoir No. 3	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9045	North Fork	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9046	Dale Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9047	Junction	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9048	Carroll and Carroll	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9049	Double K Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9050	Dumbell Ranch Company	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9051	Mule-Rogers Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9052	Spring Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9053	Strain	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9054	Woods Landing	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9055	Ferguson Ranch "C"	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9056	PR5	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9057	South Fork	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9058	40 Mile Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9059	Charles Garrett	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9060	Sybille Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9061	Warren George	yes	no	0.00	1	0	0.0	1	0	903	0	0.0	0
9062	William Goodrich	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9063	Ed Hall Ranch, Incorporated	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9064	Menter-Rattlesnake	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9066	West Fork	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9067	Antelope Basin	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9068	Rock Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9070	Canyon Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9071	Slate Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9072	Harris Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9073	Robert Hawley	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9074	Heart B South Pasture	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9075	Heart B North Pasture	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9078	Indian Guide	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9079	Cherry Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9080	JW Ranch, Ltd.	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9081	Coalbank	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment No.	Allotment Name	Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
Alternative D (Continued)													
9082	Government Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9083	Bamforth	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9084	Johnston Fuel Liners	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9086	Bar M Mountain	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9087	Kennedy	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9089	River Basin	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9090	Dodge Creek Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9091	Leazenby Lake	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9092	Steamboat Rock	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9093	W. J. Logan	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9094	Irvine, JE & GA	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9095	James Atkinson	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9096	Boswell Ranch	no	yes	0.00	0	1	0.0	2	0	0	0	0.0	0
9098	Rock Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9099	McGill	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9100	Paradise Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9101	Ione	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9102	Sheep Rock	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9103	Pinto Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9104	South Wheatland No. 2	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9105	J. & J. McLaughlin	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9106	Mill Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9107	Poe Mountain-Canyon Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9108	James Merritt "A"	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9109	Strouse Hill	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9110	Plumbago Canyon	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9113	Sheep Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9114	Morgan & Edwards	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9115	Needmore Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9117	Downey Lakes	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9118	East Jelm Mountain	yes	no	0.00	0	0	0.0	2	0	0	0	0.0	0
9119	Holland Lease	yes	no	0.00	0	0	0.0	2	0	100	0	0.0	0
9120	Sunrise Creek	yes	no	0.25	0	0	0.0	2	0	200	0	0.0	0
9121	Palmer	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9122	Werner	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9123	Halleck Canyon	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9124	Bosler Canal No. 3	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9126	Bone Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment No.	Allotment Name	Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
Alternative D (Continued)													
9127	Leona Prager	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9128	R. O. Corporation	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9129	Red Mountain	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9130	Buford	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9131	Dale Robbins	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9132	James Robbins	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9133	Green Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9134	Holaday Place	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9135	Badger Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9136	Twentymile Draw	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9137	Chislo Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9138	Lookout Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9139	Sand Creek Land and Livestock	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9140	Sanders	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9141	Mule Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9142	Sheep Mountain Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9145	Boot Heel	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9147	Sommers	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9148	Springfield Ranch, Incorporated	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9149	Sterrett	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9150	Meiser Lake-Lookout	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9151	North Laramie-North Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9152	Coyote Canyon	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9153	Sellers Mountain	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9154	Meiser Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9155	McFarlane Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9156	Duck Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9157	T-K Ranch	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9158	Talbott	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9159	Tatman Original	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9160	Hirsig Place	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9161	Dirt Farm	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9163	Swan	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9164	Three D's & T	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9165	Little Laramie River	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9166	I-80 Overpass	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9167	Canyon Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0

TABLE LVGR-AP-4 (Continued)

PROPOSED RANGE IMPROVEMENTS BY ALLOTMENT FOR ALTERNATIVES B, C, AND D

Allotment		Grazing System	Spring Deferments	Fences (miles)	Reservoirs	Wells	Pipeline (miles)	Spring Developments	Snow Fences	Vegetation Manipulation (acres)	Seeding (acres)	Riparian Fencing (miles)	Fencing of Existing Reservoirs
No.	Name												
Alternative D (Continued)													
9168	Mud Springs	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9169	Wallrock Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9170	Warren Livestock "A"	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9171	Warren Livestock "B"	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9173	Dutton Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9174	Marius Willadsen	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9175	Williams Land and Livestock	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9176	Merrill Draw	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9178	Kirk Ranch Natrona	yes	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9179	Yankee Draw	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9181	Indian Rock	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9182	Chimney Rock	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9183	Laramie Peak BGWR	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9184	J. Kennedy's	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9185	North Laramie River	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9186	Flat Top	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9187	China Wall	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9188	South Meiser Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9189	George Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9190	Northest Flying X	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9191	Plumbago	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9192	Section 22	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9193	Sawmill	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9194	Bluegrass	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9195	Sugar Loaf	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9196	Holman	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9197	Desert	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9198	Tunnel Road	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9199	East Sheldon	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9202	Lookout Peak	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9203	Upper Pine Ridge	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9204	Grant Creek	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
9205	Goat Mountain	no	no	0.00	0	0	0.0	0	0	0	0	0.0	0
	Totals in the Medicine Bow Grazing EIS Area			**101.00**	**56**	**9**	**8.0**	**48**	**1,200**	**58,308**	**11,500**	**5.5**	**37**

Spring Rest

A treatment that would defer livestock grazing two months in the spring would be designed to help meet the need of key species in areas not now proposed for AMP development. The exact time of spring rest would vary by allotment. Increased vigor of all key species would be favored by this treatment.

EFFECTS OF OTHER ACTIONS ON FORAGE

Introduction

Under any of the alternatives, the effects on forage available for livestock grazing from the actions of other resource management programs would be to increase or decrease the AUMs available for livestock use. The following examples show how the BLM personnel calculated the increases or decreases in AUMs that would result from other resource management programs.

Management Actions for Forestry

In Alternative C, for example, the proposed clearcut harvest of 200 acres of sawtimber per year over 20 years would cause an increase in forage available for livestock. For any 1-acre cut, understory production becomes available 3 to 5 years after harvest and peaks approximately 11 years after harvest; the total period that additional forage would be available is about 22 years.

On the basis of data from Basile (1975), it is estimated that forage production would increase from approximately zero before cutting to about 800 to 1,000 pounds per acre in year 11, then decrease to a negligible amount in about year 22. Therefore, the cumulative impact of harvesting 1 acre every year would be that additional forage available would amount to zero before the first year of harvest, increase to an average of 544 pounds per acre in year 22, and remain constant thereafter.

The proposed timber harvest level for Alternative C would be approximately 200 acres per year. A somewhat lower cutting level has been in effect in the planning area since 1979. At 200 acres of harvest per year, if an animal unit month is calculated at 780 pounds of forage, 3,069 additional AUMs would be available by the year 2001 and every year thereafter, according to the following formula:

$$\frac{200 \text{ ac/yr} \times 22 \text{ yrs} \times 544 \text{ lbs/ac}}{780 \text{ lbs/AUM}} = 3{,}069 \text{ AUMs}$$

The maximum forage production for livestock grazing would not be available until 14 years after completion of the plan; however, some percentage of that amount would be available 2 to 5 years after the first harvest.

Management Actions for Lands

Landownership Adjustments

Disposal of public lands would eliminate forage available to be licensed for livestock use. The maximum acreage that the BLM would expect to transfer to private ownership over the next 20 years in Alternatives C and D would be about 10,000 acres; therefore, those alternatives would effectively eliminate the largest number of AUMs. On the basis of an average figure of 6 acres per AUM, the forage no longer available for grazing on public lands was calculated to be 1,667. This transfer of public lands into private ownership could eliminate approximately six allotments from the public grazing base. The exact location and extent of future lands actions are difficult to predict; thus, the effects on individual allotments cannot be predicted.

The effect on available forage for livestock would be tempered if the public lands were transferred to livestock operators in the area. Some or all of the forage lost from the public land would be available as private grazing or as salable feed if some land was converted to irrigated or dryland farms or retained as grazable rangeland.

Utility/Transportation Systems

The estimated acreage that would be disturbed per year by each utility/transportation activity is as follows: roads and highways, 59 acres; fiber-optic cable, 17 acres; power lines, 1 acre; pipelines, 97 acres; ditches, 11 acres; communication sites, 9 acres; other sites, 58 acres. This would result in a disturbance of 252 acres per year, for a total of 5,040 acres disturbed in 20 years.

It is estimated that 55% of the acreage would not be reclaimed; therefore, 2,772 acres would be lost to grazing over the long term. If an average of 6 acres per AUM is used, this converts to a loss of 462 AUMs over the planning area. Of this, 162

AUMs would be lost from the Medicine Bow grazing EIS area and 300 AUMs would be lost from the remainder of the planning area.

Management Actions for Minerals

Leasable Minerals-Coal

Current projections of demand for coal during the next 20 years indicate that approximately 4,000 acres would be disturbed over the long term. At 6 acres per AUM, the disturbance would eliminate 667 AUMs of available forage. It is expected that all 4,000 acres of disturbance would be reclaimed following removal of the coal.

The loss of available forage from coal mining might temporarily affect some individual allotments and might force some livestock permittees to adjust their operations; however, there would be virtually no effect in the planning area as a whole.

Leasable Minerals-Oil and Gas

A survey conducted by BLM personnel in 1980 indicated that the disturbed acreage associated with producing wells in fields in the Divide and Medicine Bow resource areas averaged 40 acres per producing gas well and 10 acres per producing oil well (see the oil and gas "Assumptions" in chapter 4 for a discussion of these figures). This included well-site locations and facilities, local access roads and pipelines, field equipment buildings, and other facilities primarily associated with a producing field or a group of wells. Calculations based on these average disturbance figures and on past oil and gas activity indicate that 34,355 acres of public and private surface would be disturbed over the next 20 years.

To determine the impact of oil and gas activities on vegetation production, one must consider the acreage that has been reclaimed to predisturbance levels of vegetative density and composition. Some areas have been rehabilitated to provide forage production as good as or better than what existed before disturbance. In other areas, rehabilitation efforts have been unsuccessful or have established vegetation types of little value for livestock grazing. Limited rainfall, severe weather conditions, and poor soils make reclamation difficult; these environmental conditions would increase the length of time required to reestablish native vegetation to predisturbance composition and density.

On the basis of available information, it is assumed that approximately 18,263 acres of disturbed surface would be restored over the next 20 years. The remaining 16,092 acres would no longer provide forage suitable for livestock grazing.

The amount of oil and gas development in the grazing EIS area is expected to be less than in the remainder of the planning area, as follows: 12% in the grazing EIS area and 88% in the remainder of the planning area. The percentage of the development on public land in the grazing EIS area would be 50% and the percentage on public land in the remainder of the planning area, 60%. The acreages not reclaimed in the next 20 years were computed as follows.

Grazing EIS area disturbed = 16,092 ac x 0.12 x 0.5 = 966 acres

Rest of planning area disturbed = 16,092 ac x 0.88 x 0.6 = 8,497 acres

The number of AUMs lost (at 6 acres per AUM) was estimated as follows:

Medicine Bow Grazing EIS area:

$$\frac{966 \text{ acres}}{6} = 161 \text{ AUMs lost}$$

Rest of planning area:

$$\frac{8{,}497 \text{ acres}}{6} = 1{,}416 \text{ AUMs lost}$$

The planning area contains significant numbers of KGS areas and a considerable number of areas with high potential for oil and gas deposits, so important vegetation losses might occur over the next few years. Historically, 73% of the wells have been successful in KGS areas, 63% in high-potential areas, 36% in moderate-potential areas, and 3% in low-potential areas. Data for disturbed acreage associated with successful wells indicate that 95% of the disturbed acreage in the planning area has been in KGS and high-potential oil and gas areas. Therefore, it can be assumed that most of the future loss of available AUMs would occur in grazing allotments that are in KGS areas. However, the loss of available AUMs to individual allotments cannot be projected.

Locatable Minerals

Locatable mineral prospecting, claim staking, assessment work, exploration, and development have been carried out in the grazing EIS area for more than 100 years. Over the years these activities have had minimal impacts on livestock grazing except where large-scale pit mining or strip-mining operations have been involved. The large-scale operations historically have been associated with uranium mining. This is the only locatable mineral that will be discussed in this section as potentially affecting the availability of forage for livestock grazing.

The allotments most likely to be affected, however insignificant, would be the ones that are in the mineralized portions of the planning area (as shown on map 27).

Mining activities have been cyclic between periods of intense activity and periods of recession such as has been seen in the uranium industry since the 1950s. We cannot accurately predict when, where, or what percentage of the known uranium reserves would be mined in the future. However, on the basis of past and present activity, it is anticipated that uranium mining would continue at approximately 0.3 million tons per year with 1 acre disturbed for every 4,000 tons of ore mined. This converts to a disturbance of 75 acres per year, for a total of 1,500 acres over the next 20 years. This disturbance of 1,500 acres would remove 250 AUMs of forage from the grazing base. The AUMs lost through uranium mining in the Medicine Bow grazing EIS area would be approximately 83 AUMs, and the AUMs lost in the remainder of the planning area would be approximately 167 AUMs.

The major area of uranium activity would continue to be Shirley Basin. The allotments surrounding the existing mining operation could be adversely affected over the next 20 years. Allotments in the vicinity of the Poison Basin and Red Desert ore bodies also could be affected significantly over the next 20 years if a market turnaround and increased demand for uranium were to occur.

The projected impact on the Medicine Bow grazing EIS area and on the planning area as a whole would be effective elimination of AUMs of forage from the public grazing base during the life of the mining operation. Some of this forage might be available in the future, after reclamation, for mined lands that remain in federal ownership. Other forage might be available from the mining company as private leasable forage when public land transfers to private ownership through the patent process.

IMPLEMENTATION OF PLAN

Rangeland Program Summary

The selection of the final proposed action will take place after a review of the public comments submitted in response to the draft plan. The final plan may consist of one of the alternatives presented in this document, or it may be a combination of parts of several alternatives. After publication of the final EIS, management decisions will be documented in a record of decision and published in the *Federal Register.*

After the final EIS is completed, a rangeland program summary (RPS) will be prepared and circulated to permittees/lessees and other interested parties in accordance with BLM Manual Handbook H-4160-1. The RPS can be combined with the record of decision to avoid duplication of effort. RPS updates will be prepared and circulated as necessary to keep permittees and other interested parties informed of progress toward meeting management objectives.

The RPS will explain the procedure involved in establishing initial and subsequent levels of livestock grazing use. Grazing decisions and agreements will be issued as part of the RPS and either will include initial livestock grazing use levels or will identify the data needed and the procedures to be used in determining future adjustments.

Methods of Implementation

The resource management plan will be implemented through activity plans such as AMPs, wildlife HMPs, and watershed activity plans. These plans will identify such details as the grazing systems to be used in an AMP and the location of range improvements for the benefit of livestock, wildlife, and watershed. The management actions developed for these plans will be integrated into a total management program designed to ensure progress toward meeting the objectives of the RMP. Additional implementation guidelines that apply to the alternatives are discussed below.

Implementation of the RMP will take place through coordination, consultation, and cooperation. Grazing adjustments, if required, will be based on reliable vegetation monitoring studies, consultation and coordination, inventory, or a combination of these sources.

Livestock grazing AMPs will include one or more of the grazing treatments described in this appendix. The grazing treatments will be designed to provide forage for consumptive use while maintaining proper and judicious use levels for key forage species (normally 50% of the current year's growth for grasses).

The development of livestock grazing management procedures and projects will be coordinated through AMPs according to the selective management policy described later in this section. All projects will be based on estimated needs. The AMPs will determine the precise location and mixture of projects needed to meet management objectives.

Range management actions for livestock use and big game use will be based on data obtained through monitoring and will be implemented with consideration for the recommendations made through consultation and coordination. Actions could include changes in seasons of use, changes in livestock numbers, correction of livestock distribution problems, development of range improvements, and site-specific measures to achieve improvements in wildlife habitat.

Selective Management

It is BLM policy to address rangeland management problems through selective management. As indicated in the section on allotment categorization, each allotment is assigned a category-"M" (maintain current satisfactory condition), "I" (improve unsatisfactory condition), or "C" (custodial management)-according to its resource needs and potential for improvement.

The implementation strategy for the management actions identified in table LVGR AP-5 will depend on, and priorities will be assigned according to, the selective management category of each allotment.

TABLE LVGR-AP-5

PRIORITY OF IMPLEMENTATION ACTION BY ALLOTMENT CATEGORY

	Priority by Allotment Selective Management Category		
Management Action	**Maintain**	**Improve**	**Custodial**
Funding of rangeland improvements with appropriated funds	2	1	3
Development of allotment management plans	2	1	3
Use supervision	3	1	2
Monitoring	2	1	3

Intensive grazing management will be implemented in accordance with the following priorities:

> "I" allotments will have first priority for development of plans to resolve identified problems. All range improvement projects proposed in this document are for "I" allotments.
>
> "M" allotments will have second priority for development of AMPs. Although range improvements are not proposed for these allotments, some minor rangeland improvements may be developed as the need arises.
>
> "C" allotments will have third priority for development of plans. Although range improvements are not proposed for these allotments, some minor rangeland improvements may be developed as the need arises.

BLM personnel have determined the potential for improvement of each allotment by estimating its present range condition and analyzing its resource potential, the presence of user conflicts, opportunities for positive economic return, and present management. A complete listing of the specific criteria used to evaluate the grazing allotments in the Medicine Bow grazing EIS area appears earlier in this appendix.

Standard Operating Procedures

Mitigation

BLM personnel will take the following actions during implementation of the plan to mitigate the impact of management actions.

An environmental analysis will be required for all projects before they can be implemented. If it is determined through this analysis that significant impacts would occur, the project will be modified, abandoned, or deferred until an EIS is completed for the project.

Permanent roads will not be constructed to project sites. Use will be made of existing access, off-road travel, or temporary roads, which will be rehabilitated after construction activity.

For protection of cultural resources, actions will be in compliance with section 106 of the National Historic Preservation Act of 1966, as amended, section 101(b)(4) of the National Environmental Protection Act of 1969, and the American Indian Religious Freedom Act of 1978.

Before projects are approved, intensive field inventories will be conducted at project sites. If cultural or paleontological sites are found, every effort will be made to avoid adverse impacts. Where impacts cannot be avoided, the BLM will consult with the State Historic Preservation Office and the Advisory Council on Historic Preservation in accordance with the programmatic memorandum of agreement of January 14, 1980, between the BLM and the Advisory Council.

All actions will be in compliance with the BLM's visual resource management design procedures. For any project that would have a visual contrast rating of more than the recommended maximum of the visual class zone in which it is proposed, the visual contrast will be considered significant, and the need for mitigating measures will be examined.

To ensure a minimum of effects on wildlife, recreation, and visual resources, construction of all fences will conform to the objectives and specifications in section 1737 of the BLM manual.

The clearing of vegetation from project sites will be restricted to the minimum amount necessary.

To ensure nonimpairment of species other than the target species, herbicides applied to reduce sagebrush and other plant species (such as 2,4-D) will be applied on proposed treatment areas in accordance with procedures established in section 9222 of the BLM Manual.

Where such action is necessary and practical, all disturbed areas will be rehabilitated to replace ground cover and prevent erosion.

Multiple-use concepts will be considered in all vegetation manipulations where livestock and wildlife use areas overlap.

Maintenance of livestock management structures will be accomplished by livestock permittees through cooperative agreements, as specified in the BLM's 1982 Rangeland Improvement Policy as described in Washington Office instruction memorandum 83-27, which is on file at the Medicine Bow Resource Area office.

Before any part of the plan is implemented that could affect a threatened or endangered species or its habitat, a "threatened" or "endangered" species clearance may be required. Any effects on such species or habitat will be mitigated, or the project will be abandoned if appropriate mitigative measures are not feasible.

Spring improvement projects will be fenced, and water will be piped away from the source to a trough or pond if necessary. Where appropriate, water also will be left at the spring source.

Where the need is identified for wildlife use, water improvements could include bird ramps in watering troughs, lateral water sites off pipelines, overflows at troughs, protected seep areas, and fences around spring developments.

Livestock permits will be adjusted if necessary to reflect decreases in public land acreage available for livestock grazing use within an allotment as a result of land disposal.

Range improvements in wilderness study areas will be developed in a manner that will not impair wilderness characteristics.

Rangeland Monitoring

Monitoring will be conducted in accordance with the following standard operating procedures.

The BLM Manual, Wyoming State Office Supplement Handbook H-4423-1, section 4423.56, will be used as a general guide in the development of procedures for monitoring range condition and trend. Plant frequency, density, production, utilization, and ground cover will be sampled when vegetation and soil erosion trends are evaluated. Other parameters such as canopy cover and seedling or shrub characteristics will be considered as needed on areas such as riparian zones, aspen stands, and bitterbrush or other mountain shrub thickets.

During and after grazing of each allotment, forage utilization will be measured by the height-weight method or the key forage plant method described in the BLM Manual, Wyoming State Office Supplement Handbook H-4423-1, section 4423.47. This practice will help land managers to determine whether existing stocking levels are providing proper use and what adjustments, if any, are needed in the present management. These studies also will be useful in the development of a schedule for seasonal use within a grazing system.

Meadows will be monitored so that impacts from grazing can be determined as described in the BLM Manual, Wyoming State Office Supplement Handbook H-4423-1, section 4423.56C.

Rain gauges will be used to measure precipitation. These data will help BLM personnel to interpret vegetative production variations resulting from climatic changes.

Water quality and quantity will be monitored as necessary to determine the location of the problem areas.

Soil erosion will be assessed in conjunction with range trend studies. Changes in gully development along transects would be documented. Clay-mineral analysis of sediment will be used to monitor changes in sediment and erosion sources.

If actual use information is required, it will be used to evaluate AMPs, areas where management is planned, or problem areas. Direct and indirect methods will be used to collect this information when needed, according to the guidelines in the BLM Manual 4400.23A, Wyoming State Office Supplement Handbook H-4423-1, section 4423.3.

Grazing Administration

Grazing administration will be carried out in accordance with the following standard operating procedures.

Permits specifying the allotments, season of use, and number and kind of livestock will be issued to each operator. Operators will have to obtain BLM approval before changing the grazing specifications outlined in their permits.

Livestock operators might be required to file actual use reports showing how many livestock grazed in each allotment and/or pasture, and for how long. The BLM will supervise use on the allotments throughout the grazing year.

If necessary, actions resolving unauthorized use will be initiated as described in 43 CFR 4150. Any unauthorized use will be eliminated, and payment will be collected from those responsible for damage and consumption of forage.

Each AMP will incorporate site-specific objectives for maintaining or improving habitat for livestock, wildlife, and fish in the allotment. The grazing system implemented under each AMP will be designed to achieve those objectives.

The projected long-term ecological condition for each allotment is shown in table LVGR AP-6.

Noxious Weed and Pest Control

The BLM will control the spread of noxious weeds and pests on public land where it is environmentally acceptable and economically feasible. Weed and pest control will be carried out in coordination with the appropriate county weed and pest control district, the Animal and Plant Health Inspection Service, and owners of adjacent property.

Where control is warranted, the BLM will consider chemical applications, plowing and seeding, burning and seeding, livestock grazing strategies, and biological control. The EISs for the Northwest Area noxious weed control program (USDI, BLM 1985b) and the Rangeland Grasshopper cooperative management program (USDA, APHIS 1986), contain overall guidance for weed and pest control.

Site-specific environmental analysis will be conducted on individual weed or pest control projects.

TABLE LVGR-AP-6

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative A										
0003	Bates Creek	570	532	868	285	2,611	370	0	532	570
0040	Marton	1,008	663	1,069	567	2,519	1,012	0	530	1,008
0047	Lone Tree	504	344	492	235	1,099	646	0	344	504
0061	Squaw Mountain	19	19	25	0	0	280	0	19	19
0216	Taylor-Powder Horn	29	33	65	0	225	78	0	33	29
0261	Gallagher	92	92	120	0	0	412	0	92	92
0289	Horr	76	76	99	0	0	343	0	76	76
0301	Pathfinder	931	1,068	1,577	421	2,674	3,189	0	907	931
0302	Little Canyon Creek	165	175	278	98	407	511	0	175	165
0303	Canyon Creek	678	487	697	230	1,591	1,629	0	438	678
0305	Camp Creek	706	447	753	257	2,258	977	5	402	706
0306	Kirk Ranch	365	391	491	0	337	2,345	410	540	365
0307	Bates Hole	1,850	2,512	3,200	19	1,327	7,581	1,416	2,763	1,850
0309	Moss Agate	986	760	1,115	442	2,913	2,308	11	608	986
0310	Antelope Springs	577	457	720	298	1,469	1,259	266	366	577
0311	Bates Benchmark	611	580	1,068	441	2,613	1,085	0	493	611
0312	7E Ranch	1,370	1,163	1,804	481	4,555	2,428	402	1,047	1,370
0315	Indian Springs	2,306	2,108	3,014	959	5,333	7,183	0	1,686	2,306
0316	Dry Creek Rim	4,346	4,294	5,659	380	5,239	13,454	3,104	4,346	4,346
0317	Upper Dry Creek	608	737	1,083	2	2,421	1,804	0	737	608
0318	Shirley Ridge	981	1,258	1,652	72	1,029	4,970	1,014	1,384	981
0319	Little Medicine	2,898	2,240	3,569	1,105	10,665	6,498	215	2,016	2,898
0320	Leo	748	1,867	3,000	1,046	4,899	3,922	0	1,587	748
0321	Dry Creek	1,213	1,721	2,286	580	6,981	3,828	0	1,463	1,213
0322	Spring Creek	1,912	1,985	3,023	231	2,173	6,813	716	1,787	1,912
0323	Black Canyon	2,106	1,985	3,023	784	4,666	3,759	0	1,687	2,106
0324	Palmer-Nelson	898	518	813	258	1,586	1,718	0	414	898
0325	Cady	20	21	51	43	86	46	0	17	20
0326	Beaver Creek	826	414	792	205	1,276	632	0	352	826
0327	School Section	222	125	151	9	176	568	0	100	222
0328	Sullivan	20,618	16,587	24,698	6,937	42,754	43,383	5,583	14,099	20,618
0329	Lost Creek	468	468	694	237	1,529	1,075	8	398	468
0330	House Gulch	631	503	739	196	1,208	834	0	453	631
0331	Upper Lost Creek	120	138	161	6	74	376	0	124	120
0332	Thornton Place	374	378	553	0	1,335	1,463	43	378	374
0333	South Bennett North	772	1,103	1,226	4	1,728	3,040	212	1,103	772

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative A (Continued)										
0334	Corral Creek	1,181	1,151	1,946	536	2,992	1,957	14	978	1,181
0335	Shirley Mountain	3,655	3,265	6,969	967	7,232	2,130	142	2,939	3,655
0336	Mud Springs	466	233	275	0	159	620	157	268	466
0337	Bunker	589	1,075	1,475	234	2,505	4,162	0	967	589
0339	Grasshopper	10	10	13	0	0	40	0	10	10
0340	Horse Springs	1,056	799	1,160	0	2,408	2,848	371	879	1,056
0351	Edwards	16	16	21	0	0	155	0	16	16
0361	Wilson	8	8	10	0	0	40	0	8	8
0364	Milo	8	8	10	0	0	40	0	8	0
0399	Peterson	10	10	13	0	0	80	0	10	10
0452	Strock	70	70	91	0	0	280	0	70	70
0524	Rock Creek	16	10	25	0	45	5	0	10	16
0801	South Bennett South	387	751	934	6	883	1,367	141	826	387
0802	Tennant Place	18	15	18	0	0	63	0	15	18
0803	Horseshoe Ridge	369	519	787	0	1,879	2,503	272	571	369
0804	South Austin Creek	260	262	388	285	1,067	204	214	210	260
0805	East Seminoe	168	101	174	33	596	655	0	101	168
0806	Schneider Ridge	212	170	227	38	407	388	168	170	212
0807	East Schneider Ridge	1,263	1,467	2,341	448	4,296	2,777	228	1,320	1,263
0808	T. E. Ranch	268	383	495	58	397	600	438	383	268
0809	Medicine Bow	181	143	157	0	44	257	42	157	181
0810	RR 30	72	72	94	0	67	605	0	65	72
0811	Ellis Block	1,604	3,346	3,957	488	3,509	5,976	267	3,011	1,604
0812	Freezeout	73	196	215	27	138	119	0	157	73
0813	Oil Springs	45	76	93	6	117	372	23	61	45
0814	T B Flats D. M.	162	245	273	0	140	703	76	270	162
0817	Little Medicine Bow	269	180	234	0	174	986	0	153	269
0818	T B Flats	60	72	94	0	184	297	31	79	60
0819	North Walcott	3,138	2,374	3,086	460	6,913	24,395	0	2,018	3,138
0820	Quealey Block	3,848	4,077	5,300	0	4,241	18,736	3,770	4,485	3,848
0821	South Seminoe	558	297	386	0	380	1,520	0	238	558
0822	Dana Block North	4,962	4,962	6,451	0	8,204	20,663	913	4,962	4,962
0824	North Area	2,590	914	1,175	25	1,460	3,417	124	914	2,590
0825	Slate Ridge	644	723	940	0	1,831	2,520	580	723	644
0826	Robbers Roost	960	712	926	199	1,592	3,186	0	570	960
0827	Pass Creek Ridge	3,574	4,833	6,283	346	24,714	20,876	4,323	5,800	3,574

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment Number	Allotment Name	Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres) Poor	Fair	Good	Excellent	Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Alternative A (Continued)										
0828	Wilson Pasture	65	36	47	64	256	0	0	29	65
0829	Dana Meadows South	2,336	2,252	2,928	695	9,280	3,776	113	2,252	2,336
0830	Chace Block	2,147	1,585	2,061	1,184	6,459	6,979	374	1,268	2,147
0831	Third Sand Creek	60	81	105	0	0	324	36	89	60
0832	North Anschutz	2,926	2,164	2,813	898	5,977	10,174	0	1,839	2,926
0833	East Allen Lake	7	7	9	0	0	243	0	7	7
0834	Foote Creek Pasture	873	883	1,148	0	0	4,264	772	883	873
0836	Pine Ridge	1,711	1,711	2,224	0	4,900	2,833	490	1,711	1,711
0838	South Walcott	323	281	365	138	988	1,180	0	238	323
0839	Lone Tree Allotment	470	494	642	0	1,429	1,130	0	494	470
0840	Soil Bank Pasture	27	14	18	0	8	32	0	11	27
0841	Peterson Ranch	24	14	18	0	16	64	0	11	24
0842	Wolfe	48	19	25	54	216	8	0	15	48
0843	Meads	120	63	82	640	0	0	0	50	120
0844	Pass Creek Flats	413	465	605	2,258	718	1,114	118	512	413
0845	T. A. Ranch	338	381	495	0	2,195	694	54	438	338
0846	Coyote Ditch	12	14	18	0	0	80	0	14	12
0847	Home Pasture	13	14	18	0	0	80	0	14	13
0848	Rattlesnake	202	100	130	19	247	684	0	80	202
0849	Midland	165	159	207	0	0	661	0	159	165
0850	Home Ranch	585	585	761	0	528	3,104	0	585	585
0851	West Elk Mountain	127	127	165	0	0	0	0	127	127
0853	U.L.	120	132	172	0	115	474	51	145	120
0854	South Anchutz Block	363	363	472	0	1,267	1,900	0	363	363
0855	Arlington	142	141	183	0	0	841	0	141	142
0856	Pine Ridge	207	177	230	66	440	374	0	150	207
0857	Bailey	518	603	784	0	496	1,573	262	693	518
0858	Three Mile Tract	8	8	10	0	0	40	0	8	8
0859	Coalbank Mine	294	294	382	0	168	952	0	294	294
0860	Upper Bear Creek	66	66	86	0	0	652	0	66	66
0861	Corpening	30	30	39	0	112	40	0	30	30
0862	Lake Creek Flats	1,215	1,577	2,050	0	7,786	4,642	674	1,892	1,215
0863	North Lake Creek	45	19	25	0	32	128	0	15	45
0864	Sixmile Hill	16	16	21	0	0	133	0	16	16
0865	Lake Creek	136	136	177	1,150	130	0	0	136	136
0866	Buck Springs Draw	188	188	244	630	500	310	0	188	188

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative A (Continued)										
0867	Petry, 4900	202	202	263	0	1,280	15	0	202	202
0868	V U	357	357	464	111	1,153	1,383	0	321	357
0869	Cedar Creek	10	10	13	0	0	120	0	10	10
0870	East Coad Mountain	40	27	35	4	49	137	0	22	40
0871	Basin Ranch	127	127	165	0	152	608	0	127	127
0872	Overland Trail	24	24	31	0	0	120	0	24	24
0873	Dixon Block	151	151	196	0	151	606	0	151	151
0875	Cooper Hill	121	120	156	0	0	840	0	120	121
0876	Seven Mile	60	60	78	0	120	280	0	60	60
0877	Miller	54	54	70	104	0	0	194	54	54
0878	County Line	74	58	75	0	48	272	0	49	74
0879	Lonesome Fox	18	18	23	0	50	50	0	18	18
1001	A Bar A Ranch	1,127	1,127	1,465	0	3,592	2,095	299	1,127	1,127
1002	Anderson Reservoir	23	23	30	16	144	0	0	21	23
1003	Corral Creek	132	132	172	0	660	594	66	132	132
1004	Bennett Peak	143	143	186	113	1,053	372	302	130	143
1005	Wood Hill	26	26	34	0	80	80	0	26	26
1006	Silver Spur Ranch	381	381	495	0	1,315	438	0	381	381
1007	Robert A Dynes	7	7	9	0	0	119	0	7	7
1008	Finch Ranch	138	138	179	130	863	763	163	117	138
1009	Cherokee Creek	123	123	160	0	480	480	0	123	123
1010	Herring & Herring	165	165	215	0	949	949	0	165	165
1011	A. R. Huston	87	86	112	252	378	504	126	86	87
1013	Tennant Creek	127	63	82	0	182	547	0	63	127
1014	Kraft Ranch	12	12	16	0	0	240	0	12	12
1015	Flying Diamond	229	229	298	0	392	728	0	229	229
1016	Norman Merrill	36	36	47	0	140	60	0	36	36
1017	Cottonwood	220	220	286	0	0	1,966	0	220	220
1018	Beaver Creek Hills	317	317	412	0	406	1,220	0	317	317
1019	Albert H. Oldman	48	48	62	22	224	213	101	43	48
1020	East Fork	20	20	26	0	80	100	20	20	20
1021	Platt	251	251	326	0	335	781	0	251	251
1022	Romios Ranch	265	265	345	106	1,060	954	0	238	265
1023	Arthur Rouse	251	251	326	131	657	639	450	201	251
1024	Beaver Creek Hills	144	144	187	0	48	912	0	144	144
1025	Fred Rutschman	22	22	29	0	0	195	0	22	22

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative A (Continued)										
1026	Ryan Ranches	78	78	101	0	394	394	0	78	78
1027	Sanger	699	699	909	0	752	3,258	1,002	699	699
1029	Saulcy	291	291	378	0	951	1,904	317	291	291
1031	North Fork	63	63	82	125	250	504	82	54	63
1032	Cotton Reservoir	270	270	351	0	0	1,880	0	270	270
1033	Antelope Creek	45	31	40	0	257	257	64	31	45
1034	Wiant	27	27	35	0	320	0	0	27	27
1035	Willford Ranches	199	199	259	0	581	581	129	199	199
1036	Cottonwood Corral Creek	234	229	298	0	0	1,324	713	229	234
1038	Forster	8	8	10	0	18	17	0	8	8
1039	Little Beaver Creek	160	160	208	0	320	480	0	160	160
1041	South Cedar Creek	8	8	10	0	40	40	0	8	8
1042	Dufunny	20	20	26	0	0	320	0	20	20
1043	Beaver Creek South	11	11	14	0	0	80	0	11	11
1044	Sowder-McNaney	92	92	120	0	272	272	0	92	92
1045	Chad	295	295	384	0	1,263	1,264	0	295	295
1046	McCoid-Harrison	93	93	121	0	298	298	0	93	93
1047	Horn and Meason	67	67	87	0	393	392	0	67	67
1048	Kennaday	137	137	178	0	580	580	0	137	137
1049	Prospect Mountain	1,494	1,494	1,942	0	4,712	2,749	393	1,494	1,494
1050	Platt Mine	205	205	266	0	277	647	0	205	205
1200	Belvoir Grazing	10	10	13	0	0	40	0	10	10
1201	Bowman	58	58	75	0	160	0	0	58	58
1202	Spring Creek	0	0	0	0	0	0	0	0	0
1203	Merrill Farthing	75	75	98	0	65	585	0	75	75
1204	Ferguson Ranch "A"	52	52	61	0	0	360	0	52	52
1205	Ferguson Ranch "B"	18	18	23	0	0	160	0	18	18
1207	A. E. Hodgson	11	11	14	0	0	40	0	11	11
1208	Sand Creek	8	8	10	0	0	40	0	8	8
1209	Lazy D	15	15	20	0	61	0	0	15	15
1210	Ab. Lorenz	593	593	771	0	293	2,641	0	593	593
1211	McIntyre Draw	64	64	83	0	32	288	0	64	64
1212	J. D. McLees	135	137	176	0	660	190	310	137	135
1213	James Merritt "B"	120	120	156	0	0	661	0	120	120

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative A (Continued)										
1214	Moritz Brothers, Incorporated	80	80	104	0	320	0	0	80	80
1215	Soapstone Grazing Association	10	10	13	0	0	40	0	10	10
1216	Switzer	8	8	10	0	0	40	0	8	8
1218	Lodgepole Creek	120	120	156	0	0	480	0	120	120
1219	Andres Willadsen	8	8	10	0	0	40	0	8	8
1220	South of Happy Jack	13	13	17	0	0	77	0	13	13
1221	Threemile	172	172	224	0	0	80	644	172	172
9001	Anchor Ranch	72	72	94	0	96	64	0	72	72
9002	Anderson	60	14	78	0	240	0	0	60	60
9003	Associated Enterprises A	32	32	42	0	0	280	0	32	32
9004	Associated Enterprises B	112	112	146	0	0	1,000	0	112	112
9005	Bailey Atkinson	375	375	488	0	40	2,150	0	375	375
9006	Ken Atkinson	359	359	467	0	202	1,879	0	359	359
9007	Dale Creek	12	12	16	0	0	40	0	12	12
9008	L. W. Bailey	74	74	96	0	80	240	0	74	74
9009	WLX	501	501	651	0	354	3,182	0	501	501
9011	Bessie Bath	172	172	224	0	330	495	0	172	172
9012	Bath Brothers	310	310	403	0	0	1,240	0	310	310
9013	John and Marie Bell	1,070	1,070	1,391	0	1,336	5,346	0	1,070	1,070
9014	Bell-Otte Ranch	115	129	168	0	171	1,544	0	129	115
9017	The Buttes	48	48	62	0	32	256	32	48	48
9018	North Lodgepole Creek	37	37	48	0	48	112	0	37	37
9019	Frank Booth	260	260	338	0	495	742	0	260	260
9020	Bovee Horse Pasture	8	13	17	0	80	0	0	13	8
9021	Bovee	379	379	493	0	0	950	1,400	379	379
9022	Gibbs Place	282	282	367	0	0	1,664	0	282	282
9023	Wheatland Tunnel	498	505	657	0	0	2,960	0	505	498
9024	Wheatland Res. No. 2	132	132	172	0	0	800	0	132	132
9025	James Lake	676	676	879	0	1,588	2,950	0	676	676
9026	Waechter Canyon	156	156	203	0	0	643	34	156	156
9027	Woodrow Brow	165	165	215	0	420	1,260	0	165	165
9028	Bear Head Mountain	8	8	10	0	0	0	80	8	8
9029	Indian Rock	110	79	103	0	8	160	512	63	110
9030	Burnett Creek	314	452	1,065	400	1,557	156	0	362	314

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment Number	Allotment Name	Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres) Poor	Fair	Good	Excellent	Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Alternative A (Continued)										
9031	Pinto Rocks	81	81	105	0	425	424	0	81	81
9032	J. H. Butler	7	7	9	0	20	21	0	7	7
9033	Carlin Ranch	300	364	473	0	771	1,130	117	400	300
9034	Palmer Canyon	71	71	92	0	84	196	0	71	71
9035	Chalk Hills Dry Creek	2,724	2,207	3,519	1,031	9,991	6,494	542	1,986	2,724
9036	Pine Ridge	55	55	72	0	0	240	0	55	55
9037	Bull Camp Peak	678	678	881	0	1,095	3,066	219	678	678
9038	Ervin Corl	7	7	9	0	20	20	0	7	7
9039	Croonberg Ranch	215	215	280	0	640	800	0	215	215
9040	Parsons Creek	93	177	499	496	798	0	0	142	93
9041	Davidson Creek	882	743	1,216	8	3,581	2,336	29	743	882
9042	Cross Isolated Tract	18	18	23	0	20	100	0	18	18
9043	Owen Creek	66	66	86	0	118	277	0	66	66
9044	Wheatland Number 3	976	1,218	1,583	384	96	1,404	2,861	1,462	976
9045	North Fork	54	54	70	0	0	320	0	54	54
9046	Dale Creek	60	60	78	0	96	144	0	60	60
9047	Junction	182	178	231	0	75	684	81	160	182
9048	Carroll and Carroll	136	136	177	0	52	468	0	136	136
9049	Double K Ranch	181	181	235	0	0	798	0	181	181
9050	Dumbell Ranch Company	11	5	7	0	0	120	0	4	11
9051	Mule-Rogers Creek	1,638	1,638	2,129	0	355	4,064	2,717	1,638	1,638
9052	Spring Creek	298	298	387	0	0	480	982	298	298
9053	Strain	13	13	17	0	30	110	0	13	13
9054	Woods Landing	46	40	52	0	0	0	238	40	46
9055	Ferguson Ranch "C"	31	44	57	0	0	258	0	44	31
9056	PR5 Ranch	111	68	78	36	252	433	0	68	111
9057	South Fork	101	101	131	0	237	356	0	101	101
9058	40 Mile Creek	16	16	21	0	0	40	40	16	16
9059	Charles Garrett	67	70	91	0	0	10	630	70	67
9060	Sybille Creek	170	149	194	19	289	656	0	149	170
9061	Warren George	517	551	1,019	437	2,070	1,288	0	417	517
9062	William Goodrich	174	174	226	0	0	761	761	174	174
9063	Ed Hall Ranch, Inc.	40	40	52	0	0	160	0	40	40
9064	Menter-Rattlesnake	58	46	60	0	0	144	575	37	58
9066	West Fork	294	290	377	0	0	1,680	0	290	294

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment Number	Allotment Name	Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres) Poor	Fair	Good	Excellent	Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Alternative A (Continued)										
9067	Antelope Basin	325	325	423	0	0	1,655	0	325	325
9068	Rock Creek	286	286	372	0	50	1,648	190	286	286
9070	Canyon Creek	3	3	4	0	0	40	0	3	3
9071	Slate Creek	22	22	29	0	0	209	28	22	22
9072	Harris Ranch	465	465	605	0	1,664	939	0	465	465
9073	Robert Hawley	26	26	34	0	0	120	0	26	26
9074	Heart B South Pasture	1,110	1,110	1,443	0	230	4,660	922	1,110	1,110
9075	Heart B North Pasture	788	788	1,024	0	0	2,953	1,063	788	788
9078	Indian Guide	233	188	244	11	172	608	384	150	233
9079	Cherry Creek	32	34	44	0	0	640	0	34	32
9080	JW Ranch, Ltd.	42	42	55	0	96	64	0	42	42
9081	Coalbank	10	10	13	0	0	40	0	10	10
9082	Government Creek	25	48	62	0	0	144	16	53	25
9083	Bamforth	85	85	111	0	393	0	0	85	85
9084	Johnston Fuel Liners	570	547	711	0	213	1,935	135	492	570
9086	Bar M Mountain	45	45	59	0	0	635	0	45	45
9087	Kennedy	60	60	78	0	196	454	0	60	60
9089	River Basin	173	173	225	0	0	2,437	0	173	173
9090	Dodge Creek Ranch	88	88	114	0	0	80	238	88	88
9091	Leazenby Lake	40	40	52	0	0	160	0	40	40
9092	Steamboat Rock	648	872	1,134	0	862	3,547	383	959	648
9093	W. J. Logan	11	11	14	0	8	32	0	11	11
9094	Irvine, JE & GA	438	479	633	0	0	1,766	196	527	438
9095	James Atkinson	15	15	20	0	0	120	0	15	15
9096	Boswell Ranch	299	305	397	8	453	1,779	376	244	299
9098	Rock Creek	34	34	44	0	0	320	0	34	34
9099	McGill	77	77	100	0	159	638	0	77	77
9100	Paradise Creek	7	7	9	0	0	0	89	7	7
9101	Ione	30	30	39	0	0	200	0	30	30
9102	Sheep Rock	4	4	5	0	20	79	0	4	4
9103	Pinto Creek	370	396	515	0	0	1,332	1,508	436	370
9104	South Wheatland Number 2	1,198	1,198	1,557	0	608	4,567	521	1,198	1,198
9105	J. & J. McLaughlin, Incorporated	1,397	1,398	1,817	0	475	9,067	1,164	1,398	1,397
9106	Mill Creek	143	143	186	0	464	309	0	143	143

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative A (Continued)										
9107	Poe Mountain Canyon Creek	161	161	209	0	1,280	80	0	161	161
9108	James Merritt "A"	14	14	18	0	0	57	0	14	14
9109	Strouse Hill	2,451	2,451	3,186	0	200	11,450	596	2,451	2,451
9110	Plumbago Canyon	73	73	95	0	0	0	360	73	73
9113	Sheep Creek	103	103	134	0	0	427	0	103	103
9114	Morgan & Edwards	15	15	20	0	0	160	0	15	15
9115	Needmore Ranch	151	151	196	0	785	785	0	151	151
9117	Downey Lakes	92	92	120	0	52	288	0	92	92
9118	East Jelm Mountain	259	280	364	0	0	990	410	280	259
9119	Holland Lease	83	67	87	0	0	44	396	60	83
9120	Sunrise Creek	182	95	124	0	93	485	452	76	182
9121	Palmer	25	25	33	0	0	160	0	25	25
9122	Werner	4	4	5	0	17	20	0	4	4
9123	Halleck Canyon	82	82	107	0	0	685	0	82	82
9124	Bosler Canal No. 3	36	36	47	0	0	120	0	36	36
9126	Bone Creek	844	974	1,266	0	0	2,465	2,015	1,120	844
9127	Leona Prager	114	117	152	0	0	40	840	117	114
9128	R. O. Corporation	581	581	755	0	331	2141	353	581	581
9129	Red Mountain	20	20	26	0	0	78	0	20	20
9130	Buford	38	38	49	0	110	0	0	38	38
9131	Dale Robbins	194	184	239	0	0	959	0	184	194
9132	James Robbins	414	414	538	0	470	2,489	0	414	414
9133	Green Creek	57	40	52	0	85	479	0	34	57
9134	Holaday Place	35	34	45	0	63	185	0	34	35
9135	Badger Creek	26	23	30	0	40	273	0	23	26
9136	Twentymile Draw	940	940	1,222	0	401	3,764	812	940	940
9137	Chislo Ranch	146	146	190	0	0	1,840	80	146	146
9138	Lookout Ranch	648	567	737	150	1,158	2,226	0	482	648
9139	Sand Creek Land and Livestock	241	241	313	0	184	736	0	241	241
9140	Sanders	13	13	17	0	77	0	0	13	13
9141	Mule Creek	146	141	183	0	197	1,209	0	141	146
9142	Sheep Mountain Ranch	789	789	1,026	0	3,086	2,057	0	789	789
9145	Boot Heel	284	297	386	0	0	1,520	0	297	284
9147	Sommers	279	386	502	0	0	1,459	365	463	279

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative A (Continued)										
9148	Springfield Ranch, Incorporated	240	250	325	0	0	712	328	250	240
9149	Sterrett	16	16	21	0	24	96	0	16	16
9150	Meiser Lake-Lookout	2,281	2,281	2,965	0	311	6,153	3,126	2,281	2,281
9151	North Laramie-North Creek	259	259	337	0	224	1,570	448	259	259
9152	Coyote Canyon	33	33	43	0	0	0	280	33	33
9153	Sellers Mountain	410	470	611	0	0	1,096	1,774	564	410
9154	Meiser Creek	220	220	286	0	0	1,366	260	220	220
9155	McFarlane Creek	94	136	177	0	314	811	183	163	94
9156	Duck Creek	45	45	59	0	0	592	0	45	45
9157	T-K Ranch	215	215	280	0	252	1,010	0	215	215
9158	Talbott	18	18	23	0	72	48	0	18	18
9159	Tatman Original	338	338	439	0	0	325	795	338	338
9160	Hirsig Place	545	545	709	0	0	1,016	660	545	545
9161	Dirt Farm	42	42	55	0	0	320	0	42	42
9163	Swan	809	809	1,052	0	0	3,753	0	809	809
9164	Three D's & T	232	232	302	0	110	1,446	0	232	232
9165	Little Laramie River	112	112	146	0	675	0	0	112	112
9166	I-80 Overpass	56	56	73	0	178	0	0	56	56
9167	Canyon Creek	26	26	34	0	0	160	0	26	26
9168	Mud Springs	1,722	1,528	1,986	230	2,005	5,219	1,017	1,222	1,722
9169	Wallrock Creek	176	168	218	0	665	665	0	168	176
9170	Warren Livestock "A"	280	280	364	0	717	2,869	0	280	280
9171	Warren Livestock "B"	32	32	42	0	40	160	0	32	32
9173	Dutton Creek	139	139	181	0	643	0	0	139	139
9174	Marius Willadsen	8	8	10	0	0	40	0	8	8
9175	Williams Land and Livestock	334	334	434	0	0	1,096	0	334	334
9176	Merrill Draw	184	184	239	0	420	981	0	184	184
9178	Kirk Ranch Natrona	151	156	203	0	1,120	280	0	156	151
9179	Yankee Draw	311	311	404	0	0	982	767	311	311
9181	Indian Rock	265	265	345	0	0	1,633	136	265	265
9182	Chimney Rock	216	167	217	0	205	818	0	134	216
9183	Laramie Peak BGWR	6	6	8	0	0	40	0	6	6
9184	J. Kennedy's	111	111	144	0	0	860	100	111	111

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative A (Continued)										
9185	North Laramie River	15	15	20	0	0	83	0	15	15
9186	Flat Top	132	132	172	0	0	600	0	132	132
9187	China Wall	102	102	133	0	728	312	0	102	102
9188	South Meiser Creek	112	112	146	0	884	382	0	112	112
9189	George Creek	0	0	0	0	0	0	0	0	0
9190	Northeast Flying X	107	107	139	0	0	621	0	107	107
9191	Plumbago	76	76	99	0	0	890	0	76	76
9192	Section 22	64	64	83	0	0	540	100	64	64
9193	Sawmill	118	118	153	0	0	120	620	118	118
9194	Bluegrass	259	259	337	0	0	1,560	0	259	259
9195	Sugar Loaf	47	47	61	0	0	560	0	47	47
9196	Holman	9	9	12	0	0	40	40	9	9
9197	Desert	45	45	59	0	96	224	0	45	45
9198	Tunnel Road	10	10	13	0	0	46	75	10	10
9199	East Sheldon	0	0	0	0	0	0	0	0	0
9202	Lookout Peak	595	595	774	0	119	476	0	595	595
9203	Upper Pine Ridge	977	1,040	1,352	0	606	2,391	269	1,144	977
9204	Grant Creek	9	9	12	0	0	40	0	9	9
9205	Goat Mountain	45	45	59	0	0	640	0	45	45
	Totals in Medicine Bow Grazing EIS Area	**161,464**	**156,541**	**216,751**	**32,290**	**315,657**	**515,441**	**69,903**	**151,102**	**161,464**
Alternative B										
0003	Bates Creek	570	532	868	228	2,144	818	74	638	543
0040	Marton	1,008	663	1,069	0	2,268	1,579	253	796	676
0047	Lone Tree	504	344	492	0	938	881	161	413	351
0061	Squaw Mountain	19	19	25	0	0	280	0	19	19
0216	Taylor-Powder Horn	29	33	65	0	225	78	0	33	29
0261	Gallagher	92	92	120	0	0	412	0	92	92
0289	Horr	76	76	99	0	0	343	0	76	76
0301	Pathfinder	931	1,068	1,577	19	1,753	3,884	628	1,282	1,089
0302	Little Canyon Creek	165	175	278	88	376	501	51	193	129
0303	Canyon Creek	678	487	697	0	1,073	2,032	345	1,443	582
0305	Camp Creek	706	447	753	16	2,152	1,215	114	492	706

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative B (Continued)										
0306	Kirk Ranch	365	391	491	0	262	2,383	447	469	399
0307	Bates Hole	1,850	2,512	3,200	9	1,038	7,733	1,565	3,014	2,562
0309	Moss Agate	986	760	1,115	0	2,063	3,032	579	760	986
0310	Antelope Springs	577	457	720	0	1,464	1,490	333	548	466
0311	Bates Benchmark	611	580	1,068	6	1,997	1,722	414	696	592
0312	7E Ranch	1,370	1,163	1,804	2	3,338	3,338	1,190	1,396	1,186
0315	Indian Springs	2,306	2,108	3,014	29	3,119	8,980	1,348	2,780	2,178
0316	Dry Creek Rim	4,346	4,294	5,659	151	3,781	13,233	5,012	4,723	4,337
0317	Upper Dry Creek	608	737	1,083	1	1,696	2,108	422	737	737
0318	Shirley Ridge	981	1,258	1,652	32	817	5,100	1,134	1,635	1,296
0319	Little Medicine	2,898	2,240	3,569	0	7,732	8,731	2,069	2,938	2,310
0320	Leo	748	1,867	3,000	122	3,555	5,204	986	2,240	1,904
0321	Dry Creek	1,213	1,721	2,286	10	2,603	4,800	823	2,259	1,775
0322	Spring Creek	1,912	1,985	3,023	29	1,130	7,065	1,709	2,757	2,680
0323	Black Canyon	2,106	1,985	3,023	31	3,318	4,940	921	2,181	1,823
0324	Palmer-Nelson	898	518	813	22	968	2,216	356	872	553
0325	Cady	20	21	51	22	86	61	6	23	10
0326	Beaver Creek	826	414	792	0	958	944	211	622	435
0327	School Section	222	125	151	0	30	649	75	150	128
0328	Sullivan	20,618	16,587	24,698	285	29,262	53,333	15,777	22,404	17,154
0329	Lost Creek	468	468	694	0	1,104	1,451	294	640	482
0330	House Gulch	631	503	739	29	889	1,096	224	1,054	553
0331	Upper Lost Creek	120	138	161	1	26	382	46	281	152
0332	Thornton Place	374	374	486	0	1,267	1,037	286	574	394
0333	South Bennett North	772	378	552	0	1,353	2,112	385	454	493
0334	Corral Creek	1,181	1,151	1,946	27	2,200	2,706	564	2,006	1,237
0335	Shirley Mountain	3,655	3,265	6,969	75	5,499	3,707	1,190	3,967	3,330
0336	Mud Springs	466	233	275	0	174	646	122	256	372
0337	Bunker	589	1,075	1,475	4	1,590	4,617	690	1,340	1,099
0339	Grasshopper	10	10	13	0	0	40	0	11	8
0340	Horse Springs	1,056	799	1,160	1	1,873	3,116	639	984	818
0351	Edwards	16	16	21	0	0	155	0	16	16
0361	Wilson	8	8	10	0	0	40	0	8	8
0364	Milo	8	8	10	0	0	40	0	8	8
0399	Peterson	10	10	13	0	0	80	0	10	10
0452	Strock	70	70	91	0	0	280	0	70	70

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative B (Continued)										
0524	Rock Creek	16	10	25	5	45	0	0	10	16
0801	South Bennett South	387	751	934	6	883	1,367	141	826	323
0802	Tennant Place	18	15	18	0	0	57	6	15	18
0803	Horseshoe Ridge	369	519	787	0	1,879	2,503	272	571	297
0804	South Austin Creek	260	262	388	25	1,160	299	286	288	211
0805	East Seminoe	168	101	174	30	539	649	66	111	168
0806	Schneider Ridge	212	170	227	34	370	390	207	187	146
0807	East Schneider Ridge	1,263	1,467	2,341	4	3,991	3,195	559	1,614	947
0808	T. E. Ranch	268	383	495	52	363	580	498	421	221
0809	Medicine Bow	181	143	157	0	44	257	42	157	161
0810	RR 30	72	72	94	0	0	605	67	79	72
0811	Ellis Block	1,604	3,346	3,957	69	2,266	6,613	1,292	3,681	1,337
0812	Freezeout	73	196	215	0	135	149	0	196	73
0813	Oil Springs	45	76	93	0	31	458	29	76	45
0814	T B Flats D. M.	162	245	273	0	140	703	76	270	93
0817	Little Medicine Bow	269	180	234	0	0	1,044	116	198	237
0818	T B Flats	60	72	94	0	184	297	31	79	50
0819	North Walcott	3,138	2,374	3,086	0	2,761	26,137	2,870	2,611	2,350
0820	Quealey Block	3,848	4,077	5,300	0	4,241	18,736	3,770	4,485	3,379
0821	South Seminoe	558	297	386	0	0	1,710	190	327	446
0822	Dana Block North	4,962	4,962	6,451	0	2,979	19,417	7,384	5,458	3,722
0824	North Area	2,590	914	1,175	9	1,030	3,372	615	1,005	2,037
0825	Slate Ridge	644	723	940	0	1,647	2,452	832	795	570
0826	Robbers Roost	960	712	926	0	895	3,684	398	783	742
0827	Pass Creek Ridge	3,574	4,833	6,283	173	2,779	17,403	2,904	4,955	3,641
0828	Wilson Pasture	65	36	47	0	288	32	0	40	54
0829	Dana Meadows South	2,336	2,252	2,928	625	8,422	4,326	491	2,477	1,825
0830	Chace Block	2,147	2,061	1,268	0	5,330	8,337	1,329	2,267	1,656
0831	Third Sand Creek	60	81	105	0	0	324	36	89	49
0832	North Anschutz	2,926	2,164	2,813	64	3,491	11,789	1,705	2,721	2,219
0833	East Allen Lake	7	7	9	0	0	219	24	8	7
0834	Foote Creek Pasture	873	883	1,148	0	0	3,838	1,198	971	726
0836	Pine Ridge	1,711	1,711	2,224	0	4,410	3,040	773	1,882	1,368
0838	South Walcott	323	281	365	0	826	1,341	139	309	242
0839	Lone Tree Allotment	470	494	642	0	1,286	1,160	113	543	423
0840	Soil Bank Pasture	27	14	18	0	8	32	0	11	23

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative B (Continued)										
0841	Peterson Ranch	24	14	18	0	0	72	8	15	24
0842	Wolfe	48	19	25	0	243	37	0	21	40
0843	Meads	120	63	82	576	64	0	0	63	69
0844	Pass Creek Flats	413	465	605	2,258	718	1,114	118	512	343
0845	T. A. Ranch	338	381	475	0	2,195	694	54	438	206
0846	Coyote Ditch	12	14	18	0	0	72	8	15	12
0847	Home Pasture	13	14	18	0	0	72	8	15	11
0848	Rattlesnake	202	100	130	19	247	684	0	80	202
0849	Midland	165	159	207	0	0	661	0	159	165
0850	Home Ranch	585	585	761	0	475	2,847	310	644	490
0851	West Elk Mountain	127	127	165	0	0	0	0	140	98
0853	U. L. Alltoment	120	132	172	0	117	474	51	132	120
0854	South Anchutz Block	363	363	472	0	1,140	1,837	190	399	303
0855	Arlington Allotment	142	141	183	0	0	841	0	141	142
0856	Pine Ridge	207	177	230	0	396	440	44	195	166
0857	Bailey Allotment	518	603	784	0	496	1,573	262	693	460
0858	Three Mile Tract	8	8	10	0	0	36	4	9	6
0859	Coalbank Mine	294	294	382	0	151	874	95	323	235
0860	Upper Bear Creek	66	66	86	0	0	587	65	73	54
0861	Corpening	30	30	39	0	101	47	4	33	30
0862	Lake Creek Flats	1,215	1,577	2,050	0	7,786	4,642	674	1,892	909
0863	North Lake Creek	45	19	25	0	32	128	0	15	45
0864	Sixmile Hill	16	16	21	0	0	120	13	18	11
0865	Lake Creek	136	136	177	1,150	130	0	0	136	136
0866	Buck Springs Draw	188	188	244	567	513	329	31	207	147
0867	Petry, 4900	202	202	263	0	1,152	143	0	222	192
0868	V U	357	357	464	0	1,076	1,306	253	753	397
0869	Cedar Creek	10	10	13	0	0	108	12	11	6
0870	East Coad Mountain Allotment	40	27	35	0	17	156	17	30	25
0871	Basin Ranch	127	127	165	0	152	608	0	127	127
0872	Overland Trail	24	25	31	0	0	120	0	25	25
0873	Dixon Block	151	151	196	0	151	606	0	151	151
0875	Cooper Hill	121	120	156	0	0	756	84	132	121
0876	Seven Mile	60	60	78	0	108	264	28	66	51
0877	Miller	54	54	70	94	10	0	194	59	41

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative B (Continued)										
0878	County Line	74	58	75	0	0	288	32	64	47
0879	Lonesome Fox	18	18	23	0	50	50	0	18	18
1001	A Bar A Ranch	1,127	1,127	1,465	0	3,233	2,244	409	1,240	1,127
1002	Anderson Reservoir	23	23	30	16	144	0	0	21	23
1003	Corral Creek	132	132	172	0	462	667	191	408	160
1004	Bennett Peak	143	143	186	0	789	564	487	422	171
1005	Wood Hill	26	26	34	0	72	80	8	29	20
1006	Silver Spur Ranch	381	381	495	0	1,315	438	0	381	381
1007	Robert A Dynes	7	7	9	0	0	107	12	8	6
1008	Finch Ranch	138	138	179	0	605	950	364	291	153
1009	Cherokee Creek	123	123	160	0	480	480	0	123	123
1010	Herring & Herring	165	165	215	0	664	1,044	190	323	181
1011	A. R. Huston	87	86	112	101	340	580	239	154	94
1013	Tennant Creek	127	63	82	0	128	528	73	126	69
1014	Kraft Ranch	12	12	16	0	0	216	24	13	11
1015	Flying Diamond	229	229	298	0	275	733	112	555	262
1016	Norman Merrill	36	36	47	0	140	60	0	36	36
1017	Cottonwood	220	220	286	0	0	1,769	197	267	225
1018	Beaver Creek Hills	317	317	412	0	365	1,139	122	349	262
1019	Albert H. Oldman	48	48	62	0	157	247	156	121	55
1020	East Fork	20	20	26	0	72	98	30	22	17
1021	Platt	251	251	326	0	335	781	0	251	251
1022	Romios Ranch	265	265	345	0	742	1,166	212	468	285
1023	Arthur Rouse	251	251	326	0	460	722	695	426	269
1024	Beaver Creek Hills	144	144	187	0	43	826	91	158	139
1025	Fred Rutschman	22	22	29	0	0	195	0	22	22
1026	Ryan Ranches	78	78	101	0	355	394	39	86	50
1027	Sanger	699	699	909	0	667	3,007	1,228	769	559
1029	Saulcy	291	291	378	0	666	1,904	602	499	312
1031	North Fork	63	63	82	86	183	538	154	69	53
1032	Cotton Reservoir	270	270	351	0	0	1,880	0	270	270
1033	Antelope Creek	45	31	40	0	257	257	64	31	45
1034	Wiant	27	27	35	0	288	32	0	30	25
1035	Willford Ranches	199	199	259	0	523	581	187	219	161
1036	Cottonwood Corral Creek	234	229	298	0	0	1,192	845	775	284

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative B (Continued)										
1038	Forster	8	8	10	0	18	17	0	8	8
1039	Little Beaver Creek	160	160	208	0	320	480	0	160	160
1041	South Cedar Creek	8	8	10	0	36	40	4	9	6
1042	Dufunny	20	20	26	0	0	320	0	20	20
1043	Beaver Creek South	11	11	14	0	0	72	8	12	9
1044	Sowder-McNaney	92	92	120	0	245	272	27	101	75
1045	Chad	295	295	384	0	1,137	1,264	126	325	245
1046	McCoid-Harrison	93	93	121	0	268	298	30	102	75
1047	Horn and Meason	67	67	87	0	393	392	0	67	67
1048	Kennaday	137	137	178	0	406	638	116	314	155
1049	Prospect Mountain	1,494	1,494	1,942	0	3,770	3,141	943	2,293	1,544
1050	Platt Mine	205	205	266	0	222	573	129	296	202
1200	Belvoir Grazing Association	10	10	13	0	0	36	4	11	9
1201	Bowman	58	58	75	0	160	0	0	58	58
1202	Spring Creek	0	0	0	0	0	0	0	0	0
1203	Merrill Farthing	75	75	98	0	65	585	0	75	75
1204	Ferguson Ranch "A"	52	52	61	0	0	324	36	57	47
1205	Ferguson Ranch "B"	18	18	23	0	0	144	16	20	16
1207	A. E. Hodgson	11	11	14	0	0	40	0	11	11
1208	Sand Creek	8	8	10	0	0	40	0	8	8
1209	Lazy D	15	15	20	0	61	0	0	15	15
1210	Ab. Lorenz	593	593	771	0	264	2,406	264	652	530
1211	McIntyre Draw	64	64	83	0	29	262	29	70	56
1212	J. D. McLees	135	132	176	0	594	237	329	149	120
1213	James Merritt "B"	120	120	156	0	0	661	0	120	120
1214	Moritz Brothers, Incorporated	80	80	104	0	320	0	0	80	80
1215	Soapstone Grazing Association	10	10	13	0	0	36	4	11	7
1216	Switzer	8	8	10	0	0	36	4	9	7
1218	Lodgepole Creek	120	120	156	0	0	480	0	120	120
1219	Andres Willadsen	8	8	10	0	0	40	0	8	8
1220	South of Happy Jack	13	13	17	0	0	69	8	14	12
1221	Threemile	172	172	224	0	0	80	644	172	172
9001	Anchor Ranch	72	72	94	0	86	68	6	79	60

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative B (Continued)										
9002	Anderson	60	60	78	0	216	24	0	66	52
9003	Assoc. Enterprises A	32	32	42	0	0	252	28	35	24
9004	Assoc. Enterprises B	112	112	146	0	0	900	100	123	96
9005	Bailey Atkinson	375	375	488	0	40	2,150	0	375	375
9006	Ken Atkinson	359	359	466	0	182	1,709	188	395	314
9007	Dale Creek	12	12	16	0	0	36	4	13	5
9008	L. W. Bailey	74	74	96	0	72	224	24	81	59
9009	WLX	501	501	651	0	319	3,899	318	551	420
9011	Bessie Bath	172	172	224	0	297	479	50	189	150
9012	Bath Brothers	310	310	403	0	0	1,116	124	310	310
9013	John and Marie Bell	1,070	1,070	1,391	0	1,202	4,945	535	1,177	871
9014	Bell-Otte Ranch	115	129	168	0	171	1,544	0	129	115
9017	The Buttes	48	48	62	0	32	256	32	48	48
9018	North Lodgepole Creek	37	37	48	0	43	106	11	41	33
9019	Frank Booth	260	260	338	0	445	718	74	286	215
9020	Bovee Horse Pasture	8	13	17	0	72	8	0	14	7
9021	Bovee	379	379	493	0	0	855	1,495	555	397
9022	Gibbs Place	282	282	367	0	0	1,498	166	310	282
9023	Wheatland Tunnel	498	505	657	0	0	2,960	0	505	498
9024	Wheatland Res. No. 2	132	132	172	0	0	800	0	132	132
9025	James Lake	676	676	879	0	1,588	2,950	0	676	676
9026	Waechter Canyon	156	156	203	0	0	579	64	172	156
9027	Woodrow Brow	165	165	215	0	378	1,176	126	182	129
9028	Bear Head Mountain	8	8	10	0	0	0	80	9	7
9029	Indian Rock	110	79	103	0	7	145	528	87	88
9030	Burnett Creek	314	452	1,065	400	1,557	156	0	362	371
9031	Pinto Rocks	81	81	105	0	383	425	42	89	59
9032	J. H. Butler	7	7	9	0	20	21	0	7	7
9033	Carlin Ranch	300	364	473	0	771	1,130	117	400	250
9034	Palmer Canyon	71	71	92	0	76	184	20	78	53
9035	Chalk Hills Dry Creek	2,724	2,207	3,519	0	7,215	8,495	2,348	2,773	2,264
9036	Pine Ridge	55	55	72	0	0	216	24	61	46
9037	Bull Camp Peak	678	678	881	0	1,095	3,066	219	678	678
9038	Ervin Corl	7	7	9	0	20	20	0	7	7
9039	Croonberg Ranch	215	215	280	0	576	784	80	237	188
9040	Parsons Creek	93	177	499	119	787	258	130	261	155

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment					Long-term Change in Ecological Condition (acres)					
Number	Name	Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Poor	Fair	Good	Excellent	Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Alternative B (Continued)										
9041	Davidson Creek	882	743	1,216	8	3,581	2,336	29	743	882
9042	Cross Isolated Tract	18	18	23	0	18	92	10	20	16
9043	Owen Creek	66	66	86	0	106	161	28	73	58
9044	Wheatland No. 3	976	1,218	1,583	384	96	1,404	2,861	1,462	840
9045	North Fork	54	54	70	0	0	320	0	54	54
9046	Dale Creek	60	60	78	0	86	140	14	66	44
9047	Junction	182	178	231	0	75	684	81	160	182
9048	Carroll and Carroll	136	136	177	0	47	426	47	150	116
9049	Double K Ranch	181	181	235	0	0	718	80	199	138
9050	Dumbell Ranch Company	11	5	7	0	0	108	12	6	8
9051	Mule-Rogers Creek	1,638	1,638	2,129	0	319	3,694	3,123	1,802	1,493
9052	Spring Creek	298	298	387	0	0	432	1,030	328	253
9053	Strain	13	13	17	0	27	102	11	14	10
9054	Woods Landing	46	40	52	0	0	0	238	40	46
9055	Ferguson Ranch "C"	31	44	57	0	0	232	26	48	30
9056	PR5 Ranch	111	68	78	32	231	415	43	75	111
9057	South Fork	101	101	131	0	213	344	36	111	75
9058	40 Mile Creek	16	16	21	0	0	36	44	18	12
9059	Charles Garrett	67	70	91	0	0	10	630	70	67
9060	Sybille Creek	170	149	194	17	262	685	0	164	170
9061	Warren George	517	551	1,019	0	1,529	1,886	380	887	573
9062	William Goodrich	174	174	226	0	0	685	837	191	124
9063	Ed Hall Ranch, Incorporated	40	40	52	0	0	144	16	44	30
9064	Menter-Rattlesnake	58	46	60	0	0	0	719	51	41
9066	West Fork	294	290	377	0	0	1,512	168	261	273
9067	Antelope Basin	325	325	423	0	0	1,655	0	325	325
9068	Rock Creek	286	286	372	0	45	1,488	355	315	138
9070	Canyon Creek	3	3	4	0	0	36	4	3	3
9071	Slate Creek	22	22	29	0	0	188	49	24	22
9072	Harris Ranch	465	465	605	0	1,498	1,011	94	512	396
9073	Robert Hawley	26	26	34	0	0	120	0	26	26
9074	Heart B South Pasture	1,110	1,110	1,443	0	207	4,217	1,388	1,221	992
9075	Heart B North Pasture	788	788	1,024	0	0	2,658	1,358	867	709
9078	Indian Guide	233	188	244	11	172	608	384	150	233
9079	Cherry Creek	32	34	44	0	0	640	0	34	32

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative B (Continued)										
9080	JW Ranch, Ltd.	42	42	55	0	86	68	6	46	36
9081	Coalbank	10	10	13	0	0	40	0	10	10
9082	Government Creek	25	48	62	0	0	144	16	53	20
9083	Bamforth	85	85	111	0	393	0	0	85	85
9084	Johnston Fuel Liners	570	547	711	0	213	1,935	135	492	570
9086	Bar M Mountain	45	45	59	0	0	571	64	50	42
9087	Kennedy	60	60	78	0	176	429	45	66	31
9089	River Basin	173	173	225	0	0	2,193	244	190	144
9090	Dodge Creek Ranch	88	88	114	0	0	72	336	97	80
9091	Leazenby Lake	40	40	52	0	0	160	0	40	40
9092	Steamboat Rock	648	872	1,134	0	862	3,547	383	959	648
9093	W. J. Logan	11	11	14	0	7	30	3	12	8
9094	Irvine, J. E. & G. A.	438	479	633	0	0	1,766	196	527	365
9095	James Atkinson	15	15	20	0	0	108	20	17	9
9096	Boswell Ranch	299	305	397	0	28	1,903	685	364	308
9098	Rock Creek	34	34	44	0	0	288	32	37	28
9099	McGill	77	77	100	0	159	638	0	77	77
9100	Paradise Creek	7	7	9	0	0	0	80	7	7
9101	Ione	30	30	39	0	0	180	20	33	25
9102	Sheep Rock	4	4	5	0	20	79	0	4	4
9103	Pinto Creek	370	396	515	0	0	1,332	1,508	436	332
9104	South Wheatland No. 2	1,198	1,198	1,557	0	547	4,171	978	1,318	1,070
9105	J. & J. McLaughlin, Incorporated	1,397	1,398	1,817	0	427	8,208	2,071	1,538	1,048
9106	Mill Creek	143	143	186	0	418	324	31	157	119
9107	Poe Mountain Canyon Creek	161	161	209	0	1,280	80	0	161	161
9108	James Merritt "A"	14	14	18	0	0	57	0	14	14
9109	Strouse Hill	2,451	2,451	3,186	0	180	10,325	1,741	2,696	2,140
9110	Plumbago Canyon	73	73	95	0	0	0	360	73	73
9113	Sheep Creek	103	103	134	0	0	427	0	103	103
9114	Morgan & Edwards	15	15	20	0	0	144	16	17	12
9115	Needmore Ranch	151	151	196	0	785	785	0	151	151
9117	Downey Lakes	92	92	120	0	47	264	29	101	81
9118	East Jelm Mountain	259	280	364	0	0	891	509	336	286
9119	Holland Lease	83	67	87	0	0	0	440	105	71

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative B (Continued)										
9120	Sunrise Creek	182	95	124	0	0	418	612	164	102
9121	Palmer	25	25	33	0	0	160	0	25	25
9122	Werner	4	4	5	0	17	20	0	4	4
9123	Halleck Canyon	82	82	107	0	0	616	69	90	78
9124	Bosler Canal No. 3	36	36	47	0	0	108	12	40	32
9126	Bone Creek	844	974	1,266	0	0	2,465	2,015	1,120	844
9127	Leona Prager	114	117	152	0	0	40	840	117	114
9128	R. O. Corporation	581	581	755	0	298	1,960	567	639	518
9129	Red Mountain	20	20	26	0	0	70	8	22	18
9130	Buford	38	38	49	0	99	11	0	42	27
9131	Dale Robbins	194	184	239	0	0	959	0	184	194
9132	James Robbins	414	414	538	0	470	2,489	0	414	414
9133	Green Creek	57	40	52	0	85	479	0	34	57
9134	Holaday Place	35	34	45	0	63	185	0	34	35
9135	Badger Creek	26	23	30	0	40	273	0	23	26
9136	Twentymile Draw	940	940	1,222	0	401	3,764	1,812	940	940
9137	Chislo Ranch	146	146	190	0	0	1,656	264	161	132
9138	Lookout Ranch	648	567	737	65	865	2,504	0	510	539
9139	Sand Creek Land and Livestock	241	241	313	0	184	736	59	241	241
9140	Sanders	13	13	17	0	69	8	0	14	9
9141	Mule Creek	146	141	183	0	177	1,208	121	154	124
9142	Sheep Mountain Ranch	789	789	1,026	0	2,777	2,160	206	868	672
9145	Boot Heel	284	297	386	0	0	1,368	152	333	244
9147	Sommers	279	386	502	0	0	1,459	365	811	279
9148	Springfield Ranch, Incorporated	240	250	325	0	0	712	328	240	240
9149	Sterrett	16	16	21	0	24	96	0	16	16
9150	Meiser Lake-Lookout	2,281	2,281	2,965	0	280	5,569	3,741	2,509	1,825
9151	North Laramie-North Creek	259	259	337	0	202	1,435	605	285	220
9152	Coyote Canyon	33	33	43	0	0	0	280	36	25
9153	Sellers Mountain	410	470	611	0	0	1,096	1,744	564	349
9154	Meiser Creek	220	220	286	0	0	1,366	260	220	220
9155	McFarlane Creek	94	136	177	0	314	811	111	163	94
9156	Duck Creek	45	45	59	0	0	592	0	45	45

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment Number	Allotment Name	Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres) Poor	Fair	Good	Excellent	Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Alternative B (Continued)										
9157	T-K Ranch	215	215	280	0	227	884	101	236	187
9158	Talbott	18	18	23	0	65	50	5	19	17
9159	Tatman Original	338	338	439	0	0	292	828	372	297
9160	Hirsig Place	545	545	709	0	0	914	762	600	477
9161	Dirt Farm	42	42	55	0	0	320	0	42	42
9163	Swan	809	809	1,052	0	0	3,378	375	890	647
9164	Three D's & T	232	232	302	0	110	1,446	0	232	232
9165	Little Laramie River	112	112	146	0	675	0	0	112	112
9166	I-80 Overpass	56	56	73	0	178	0	0	56	56
9167	Canyon Creek	26	26	34	0	0	144	16	29	25
9168	Mud Springs	1,722	1,528	1,986	35	863	5,681	1,892	1,681	1,506
9169	Wallrock Creek	176	168	218	0	598	665	67	185	161
9170	Warren Livestock "A"	280	280	364	0	645	2,654	287	308	248
9171	Warren Livestock "B"	32	32	42	0	36	148	16	35	26
9173	Dutton Creek	139	139	181	0	579	64	0	153	126
9174	Marius Willadsen	8	8	10	0	0	40	0	8	8
9175	Williams Land and Livestock	334	334	434	0	0	986	110	367	275
9176	Merrill Draw	184	184	239	0	378	925	98	202	154
9178	Kirk Ranch Natrona	150	156	203	0	784	476	140	132	122
9179	Yankee Draw	311	311	404	0	0	884	865	342	266
9181	Indian Rock	265	265	345	0	0	1,470	299	292	240
9182	Chimney Rock	216	167	217	0	102	921	0	150	193
9183	Laramie Peak BGWR	6	6	8	0	0	40	0	6	6
9184	J. Kennedy's	111	111	144	0	0	860	100	111	111
9185	North Laramie River	15	15	20	0	0	83	0	16	14
9186	Flat Top Allotment	132	132	172	0	0	540	60	145	106
9187	China Wall	102	102	133	0	655	354	31	112	91
9188	South Meiser Creek	112	112	146	0	796	432	38	123	97
9189	George Creek	0	0	0	0	0	0	0	0	0
9190	Northeast Flying X	107	107	139	0	0	621	0	107	107
9191	Plumbago	76	76	99	0	0	890	0	76	76
9192	Section 22	64	64	83	0	0	486	154	70	45
9193	Sawmill	118	118	153	0	0	120	620	118	118
9194	Bluegrass	259	259	337	0	0	1,560	0	259	259
9195	Sugar Loaf	47	47	61	0	0	504	56	52	31

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative B (Continued)										
9196	Holman	9	9	12	0	0	36	44	10	2
9197	Desert	45	45	59	0	96	224	0	45	45
9198	Tunnel Road	10	10	13	0	0	46	75	10	10
9199	East Sheldon	0	0	0	0	0	0	0	0	0
9202	Lookout Peak	595	595	774	0	107	440	48	655	535
9203	Upper Pine Ridge	977	1,040	1,352	0	606	2,391	269	1,144	879
9204	Grant Creek	9	9	12	0	0	40	0	9	9
9205	Goat Mountain	45	45	59	0	0	640	0	45	45
	Totals in Medicine Bow Grazing EIS Area	**161,464**	**156,541**	**216,751**	**8,255**	**230,756**	**558,793**	**135,487**	**187,944**	**147,599**
Alternative C										
0003	Bates Creek	570	532	868	228	2,144	818	74	638	627
0040	Marton	1,008	663	1,069	0	2,268	1,579	253	796	783
0047	Lone Tree	504	344	492	0	938	881	161	413	406
0061	Squaw Mountain	19	19	25	0	0	280	0	19	19
0216	Taylor-Powder Horn	29	33	65	0	225	78	0	33	29
0261	Gallagher	92	92	120	0	0	412	0	92	92
0289	Horr	76	76	99	0	0	343	0	76	76
0301	Pathfinder	931	1,068	1,577	20	1,753	3,883	628	1,422	1,387
0302	Little Canyon Creek	165	175	278	98	407	511	0	175	165
0303	Canyon Creek	678	487	697	0	1,073	2,032	345	1,443	1,347
0305	Camp Creek	706	447	753	257	2,258	977	5	402	706
0306	Kirk Ranch	365	391	491	0	262	2,384	446	469	461
0307	Bates Hole	1,850	2,512	3,200	9	1,038	7,733	1,565	3,014	2,964
0309	Moss Agate	986	760	1,115	0	2,063	3,032	579	760	986
0310	Antelope Springs	577	457	720	0	1,464	1,490	333	548	538
0311	Bates Benchmark	611	580	1,068	6	1,998	1,722	414	896	863
0312	7E Ranch	1,370	1,163	1,804	2	3,338	3,338	1,190	2,146	2,048
0315	Indian Springs	2,306	2,108	3,014	29	3,119	8,980	1,348	3,180	3,073
0316	Dry Creek Rim	4,346	4,294	5,659	151	3,781	13,233	5,012	4,294	4,294
0317	Upper Dry Creek	608	737	1,083	1	1,696	2,108	422	737	737
0318	Shirley Ridge	981	1,258	1,652	32	817	5,100	1,134	1,635	1,597

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative C (Continued)										
0319	Little Medicine	2,898	2,240	3,569	0	7,732	8,731	2,069	2,938	2,868
0320	Leo	748	1,867	3,000	122	3,555	5,204	986	2,240	2,203
0321	Dry Creek	1,213	1,721	2,286	10	2,603	4,800	823	2,259	2,205
0322	Spring Creek	1,912	1,985	3,023	29	1,130	7,065	1,709	2,757	2,062
0323	Black Canyon	2,106	1,985	3,023	31	3,318	4,940	921	1,985	1,985
0324	Palmer-Nelson	898	518	813	22	968	2,216	356	872	837
0325	Cady	20	21	51	43	86	46	0	17	20
0326	Beaver Creek	826	414	792	0	958	944	211	847	804
0327	School Section	222	125	151	0	30	649	75	150	148
0328	Sullivan	20,618	16,587	24,698	285	29,262	53,333	15,777	28,404	27,222
0329	Lost Creek	468	468	694	0	1,104	1,451	294	718	693
0330	House Gulch	631	503	739	29	889	1,096	224	1,054	999
0331	Upper Lost Creek	120	138	161	1	26	382	46	281	267
0332	Thornton Place	374	374	486	0	1,267	1,037	286	574	554
0333	South Bennett North	772	1,103	1,226	0	1,353	2,112	385	1,824	1,752
0334	Corral Creek	1,181	1,151	1,946	27	2,200	2,706	564	2,674	2,524
0335	Shirley Mountain	3,655	3,265	6,969	75	5,499	3,707	1,190	3,842	3,784
0336	Mud Springs	466	233	275	0	159	620	157	268	466
0337	Bunker	589	1,075	1,475	4	1,590	4,617	690	1,340	1,304
0339	Grasshopper	10	10	13	0	0	40	0	10	10
0340	Horse Springs	1,056	799	1,160	1	1,873	3,116	639	984	966
0351	Edwards	16	16	21	0	0	155	0	16	16
0361	Wilson	8	8	10	0	0	40	0	8	8
0364	Milo	8	8	10	0	0	40	0	8	8
0399	Peterson	10	10	13	0	0	80	0	10	10
0452	Strock	70	70	91	0	0	280	0	70	70
0524	Rock Creek	16	10	25	0	45	5	0	10	16
0801	South Bennett South	387	751	934	6	883	1,367	141	826	387
0802	Tennant Place	18	15	18	0	0	63	0	15	18
0803	Horseshoe Ridge	369	519	787	0	1,879	2,503	272	571	369
0804	South Austin Creek	260	262	388	285	1,067	204	214	210	260
0805	East Seminoe	168	101	174	33	596	0	655	101	168
0806	Schneider Ridge	212	170	227	38	407	388	168	170	212
0807	East Schneider Ridge	1,263	1,467	2,341	448	4,296	2,777	228	1,320	1,263
0808	T. E. Ranch	268	383	495	58	397	600	438	383	268
0809	Medicine Bow	181	143	157	0	44	257	42	157	181

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment					Long-term Change in Ecological Condition (acres)					
Number	Name	Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Poor	Fair	Good	Excellent	Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Alternative C (Continued)										
0810	RR 30	72	72	94	0	67	605	0	65	72
0811	Ellis Block	1,604	3,346	3,957	488	3,509	5,976	267	3,011	1,604
0812	Freezeout	73	196	215	27	138	119	0	157	73
0813	Oil Springs	45	76	93	6	117	372	23	61	45
0814	T B Flats D. M.	162	245	273	0	140	703	76	270	162
0817	Little Medicine Bow	269	180	234	0	174	986	0	153	269
0818	T B Flats	60	72	94	0	184	297	31	79	60
0819	North Walcott	3,138	2,374	3,086	460	6,913	24,395	0	2,018	3,118
0820	Quealey Block	3,848	4,077	5,300	0	4,241	18,736	3,770	4,485	3,848
0821	South Seminoe	558	297	386	0	380	1,520	0	238	558
0822	Dana Block North	4,962	4,962	6,451	0	8,204	20,663	913	4,962	4,962
0824	North Area	2,590	914	1,175	25	1,460	3,417	124	914	2,590
0825	Slate Ridge	644	723	940	0	1,831	2,520	580	723	644
0826	Robbers Roost	960	712	926	199	1,592	3,186	0	560	960
0827	Pass Creek Ridge	3,574	4,833	6,283	173	2,779	17,403	2,904	6,824	6,598
0828	Wilson Pasture	65	36	47	64	256	0	0	29	65
0829	Dana Meadows South	2,336	2,252	2,928	695	9,280	3,776	113	2,252	2,336
0830	Chace Block	2,147	1,585	2,061	1,184	6,469	6,979	374	1,268	2,147
0831	Third Sand Creek	60	81	105	0	0	324	36	89	60
0832	North Anschutz	2,926	2,164	2,813	64	3,491	11,789	1,705	3,347	3,229
0833	East Allen Lake	7	7	9	0	0	243	0	7	7
0834	Foote Creek Pasture	873	883	1,148	0	0	4,264	772	883	873
0836	Pine Ridge	1,711	1,711	2,224	0	4,900	2,833	490	1,711	1,711
0838	South Walcott	323	281	365	138	988	1,180	0	238	323
0839	Lone Tree Allotment	470	494	642	0	1,429	1,130	0	494	470
0840	Soil Bank Pasture	27	14	18	0	8	32	0	11	27
0841	Peterson Ranch	24	14	18	0	16	64	0	11	24
0842	Wolfe	48	19	25	54	216	8	0	15	48
0843	Meads	120	63	82	640	0	0	0	50	120
0844	Pass Creek Flats	413	465	605	2,258	718	1,114	118	512	413
0845	T. A. Ranch	338	381	495	0	2,195	694	54	438	338
0846	Coyote Ditch	12	14	18	0	0	80	0	14	12
0847	Home Pasture	13	14	15	0	0	80	0	14	13
0848	Rattlesnake	202	100	130	19	247	684	0	80	202
0849	Midland	165	159	207	0	0	661	0	159	165
0850	Home Ranch	585	585	770	0	528	310	0	585	585

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment					Long-term Change in Ecological Condition (acres)					
Number	Name	Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Poor	Fair	Good	Excellent	Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Alternative C (Continued)										
0851	West Elk Mountain	127	127	165	0	0	0	0	127	127
0853	U. L. Alltoment	120	132	172	0	115	474	51	145	120
0854	South Anchutz Block	363	363	474	0	1,267	1,900	0	363	363
0855	Arlington Allotment	142	141	183	0	0	841	0	141	142
0856	Pine Ridge	207	177	230	66	440	374	0	150	207
0857	Bailey Allotment	518	603	784	0	496	1,573	262	693	518
0858	Three Mile Tract	8	8	10	0	0	40	0	8	8
0859	Coalbank Mine	294	294	382	0	168	952	0	294	294
0860	Upper Bear Creek	66	66	86	0	0	652	0	66	66
0861	Corpening	30	30	39	0	112	40	0	30	30
0862	Lake Creek Flats	1,215	1,577	2,050	0	7,786	4,642	674	1,892	1,215
0863	North Lake Creek	45	19	25	0	32	128	0	15	45
0864	Sixmile Hill	16	16	21	0	0	133	0	16	16
0865	Lake Creek	136	136	177	1,150	130	0	0	136	136
0866	Buck Springs Draw	188	188	244	630	500	310	0	188	188
0867	Petry, 4900	202	202	263	0	1,283	15	0	202	202
0868	V U	357	357	464	0	1,076	1,306	265	753	713
0869	Cedar Creek	10	10	13	0	0	120	0	10	10
0870	East Coad Mountain Allotment	40	27	35	4	49	137	0	22	40
0871	Basin Ranch	127	127	165	0	152	608	0	127	127
0872	Overland Trail	24	24	31	0	0	120	0	24	24
0873	Dixon Block	151	151	196	0	151	606	0	151	151
0875	Cooper Hill	121	120	156	0	0	840	0	120	121
0876	Seven Mile	60	60	78	0	120	280	0	60	60
0877	Miller	54	54	70	104	0	0	194	54	54
0878	County Line	74	58	75	0	48	272	0	49	74
0879	Lonesome Fox	18	18	23	0	50	50	0	18	18
1001	A Bar A Ranch	2,621	2,621	3,407	0	5,807	6,014	2,005	3,645	3,543
1002	Anderson Reservoir	23	23	30	16	144	0	0	21	23
1003	Corral Creek	132	132	172	0	462	667	191	408	380
1004	Bennett Peak	143	143	186	0	789	564	487	297	282
1005	Wood Hill	26	26	34	0	80	80	0	26	26
1006	Silver Spur Ranch	381	381	495	0	1,315	438	0	381	381
1007	Robert A Dynes	7	7	9	0	0	119	0	7	7
1008	Finch Ranch	138	138	179	0	605	950	364	166	163

SC-324A, BLDG. 50
DENVER FEDERAL CENTER
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TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative C (Continued)										
1009	Cherokee Creek	123	123	160	0	480	480	0	123	123
1010	Herring & Herring	165	165	215	0	664	1,044	190	198	195
1011	A. R. Huston	87	86	112	101	340	580	239	153	151
1013	Tennant Creek	127	63	72	0	128	528	73	26	120
1014	Kraft Ranch	12	12	0	0	0	240	0	12	12
1015	Flying Diamond	229	229	298	0	275	733	112	415	396
1016	Norman Merrill	36	36	47	0	140	60	0	36	36
1017	Cottonwood	220	220	286	0	0	1,769	197	267	262
1018	Beaver Creek Hills	317	317	412	0	406	1,220	0	317	317
1019	Albert H. Oldman	48	48	62	0	157	247	156	121	114
1020	East Fork	20	20	26	0	80	100	20	20	20
1021	Platt	251	251	326	0	335	781	0	251	251
1022	Romios Ranch	265	265	345	0	742	1,166	212	468	448
1023	Arthur Rouse	251	251	326	0	460	722	695	426	409
1024	Beaver Creek Hills	144	144	187	0	48	912	0	144	144
1025	Fred Rutschman	22	22	29	0	0	195	0	22	22
1026	Ryan Ranches	78	78	101	0	394	394	0	78	78
1027	Sanger	699	699	909	0	752	3,258	1,002	699	699
1029	Saulcy	291	291	378	0	666	1,904	602	499	478
1031	North Fork	63	63	82	125	250	504	82	54	63
1032	Cotton Reservoir	270	270	351	0	0	818	0	270	270
1033	Antelope Creek	45	31	40	0	257	257	64	31	45
1034	Wiant	27	27	35	0	320	0	0	27	27
1035	Willford Ranches	199	199	259	0	581	581	129	199	199
1036	Cottonwood Corral Creek	234	229	298	0	0	1,192	845	775	720
1038	Forster	8	8	10	0	18	17	0	8	8
1039	Little Beaver Creek	160	160	208	0	320	480	0	160	160
1041	South Cedar Creek	8	8	10	0	40	40	0	8	8
1042	Dufunny	20	20	26	0	0	320	0	20	20
1043	Beaver Creek South	11	11	14	0	0	80	0	11	11
1044	Sowder-McNaney	92	92	120	0	272	272	0	92	92
1045	Chad	295	295	384	0	1,263	1,264	0	295	295
1046	McCoid-Harrison	93	93	121	0	298	298	0	93	93
1047	Horn and Meason	67	67	87	0	393	392	0	67	67
1048	Kennaday	137	137	178	0	406	638	116	314	296

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative C (Continued)										
1049	Prospect Mountain	1,494	1,494	1,942	0	3,770	3,141	943	2,293	2,213
1050	Platt Mine	205	205	266	0	222	573	129	296	287
1200	Belvoir Grazing Association	10	10	13	0	0	40	0	10	10
1201	Bowman	58	58	75	0	160	0	0	58	58
1202	Spring Creek	0	0	0	0	0	0	0	0	0
1203	Merrill Farthing	75	75	98	0	65	585	0	75	75
1204	Ferguson Ranch "A"	52	52	61	0	0	360	0	52	52
1205	Ferguson Ranch "B"	18	18	23	0	0	160	0	18	18
1207	A. E. Hodgson	11	11	14	0	0	40	0	11	11
1208	Sand Creek	8	8	10	0	0	40	0	8	8
1209	Lazy D	15	15	20	0	61	0	0	15	15
1210	Ab. Lorenz	593	593	771	0	293	2,641	0	593	593
1211	McIntyre Draw	64	64	83	0	32	288	0	64	64
1212	J. D. McLees	135	137	178	0	660	190	310	137	135
1213	James Merritt "B"	120	120	156	0	0	661	0	120	120
1214	Moritz Brothers, Incorporated	80	80	104	0	320	0	0	80	80
1215	Soapstone Grazing Association	10	10	13	0	0	40	0	10	10
1216	Switzer	8	8	10	0	0	40	0	8	8
1218	Lodgepole Creek	120	120	156	0	0	480	0	120	120
1219	Andres Willadsen	8	8	10	0	0	40	0	8	8
1220	South of Happy Jack	13	13	17	0	0	77	0	13	13
1221	Threemile	171	171	225	0	0	80	644	171	171
9001	Anchor Ranch	72	72	94	0	96	64	0	72	72
9002	Anderson	60	60	78	0	240	0	0	60	60
9003	Associated Enterprises A	32	32	42	0	0	280	0	32	32
9004	Associated Enterprises B	112	112	146	0	0	1,000	0	112	112
9005	Bailey Atkinson	375	375	488	0	40	2,150	0	375	375
9006	Ken Atkinson	359	359	467	0	202	1,879	0	359	359
9007	Dale Creek	12	12	16	0	0	40	0	12	12
9008	L. W. Bailey	74	74	96	0	80	240	0	74	74
9009	WLX	501	501	651	0	354	3,182	0	501	501
9011	Bessie Bath	172	172	224	0	330	495	0	172	172
9012	Bath Brothers	310	310	403	0	0	1,240	0	310	310

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment Number	Allotment Name	Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres) Poor	Fair	Good	Excellent	Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Alternative C (Continued)										
9013	John and Marie Bell	1,070	1,070	1,391	0	1,336	5,346	0	1,070	1,070
9014	Bell-Otte Ranch	115	129	168	0	171	1,544	0	129	115
9017	The Buttes	48	48	62	0	32	256	32	48	48
9018	North Lodgepole Creek	37	37	48	0	48	112	0	37	37
9019	Frank Booth	260	260	338	0	495	742	0	260	260
9020	Bovee Horse Pasture	8	13	17	0	80	0	0	13	8
9021	Bovee	379	379	493	0	0	855	1,495	455	447
9022	Gibbs Place	282	282	367	0	0	1,664	0	282	282
9023	Wheatland Tunnel	498	505	657	0	0	2,960	0	505	498
9024	Wheatland Res. No. 2	132	132	172	0	0	800	0	132	132
9025	James Lake	676	676	879	0	1,588	2,950	0	676	676
9026	Waechter Canyon	156	156	203	0	0	643	34	156	156
9027	Woodrow Brow	165	165	215	0	420	1,260	0	165	165
9028	Bear Head Mountain	8	8	10	0	0	0	80	8	8
9029	Indian Rock	110	79	103	0	8	160	512	63	110
9030	Burnett Creek	314	452	1,065	400	1,557	156	0	362	371
9031	Pinto Rocks	81	81	105	0	425	424	0	81	81
9032	J. H. Butler	7	7	9	0	20	21	0	7	7
9033	Carlin Ranch	300	364	473	0	771	1,130	117	400	300
9034	Palmer Canyon	71	71	92	0	84	196	0	71	71
9035	Chalk Hills Dry Creek	2,724	2,207	3,519	0	7,215	8,495	2,348	4,433	4,210
9036	Pine Ridge	55	55	72	0	0	240	0	55	55
9037	Bull Camp Peak	678	678	881	0	1,095	3,066	219	678	678
9038	Ervin Corl	7	7	9	0	20	20	0	7	7
9039	Croonberg Ranch	215	215	280	0	640	800	0	215	215
9040	Parsons Creek	93	177	499	119	787	258	130	261	253
9041	Davidson Creek	882	743	1,216	8	3,581	2,336	29	743	882
9042	Cross Isolated Tract	1,818	1,818	2,363	0	20	100	0	1,818	1,818
9043	Owen Creek	66	66	86	0	118	277	0	66	66
9044	Wheatland No. 3	976	1,218	1,583	384	96	1,404	2,861	1,462	976
9045	North Fork	54	54	70	0	0	320	0	54	54
9046	Dale Creek	60	60	78	0	96	144	0	60	60
9047	Junction	182	178	231	0	75	684	81	160	182
9048	Carroll and Carroll	136	136	177	0	52	468	0	136	136
9049	Double K Ranch	181	181	235	0	0	798	0	181	181
9050	Dumbell Ranch Company	11	5	7	0	0	120	0	4	11

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment Number	Allotment Name	Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres) Poor	Fair	Good	Excellent	Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Alternative C (Continued)										
9051	Mule-Rogers Creek	1,638	1,638	2,129	0	355	4,064	2,717	1,638	1,638
9052	Spring Creek	298	298	387	0	0	480	982	298	298
9053	Strain	13	13	17	0	30	110	0	13	13
9054	Woods Landing	46	40	52	0	0	0	238	40	46
9055	Ferguson Ranch "C"	31	44	57	0	0	258	0	44	31
9056	PR5 Ranch	111	68	78	36	252	433	0	68	111
9057	South Fork	101	101	131	0	237	356	0	101	101
9058	40 Mile Creek	16	16	21	0	0	40	40	16	16
9059	Charles Garrett	67	70	91	0	0	10	630	70	67
9060	Sybille Creek	170	149	194	19	289	656	0	149	170
9061	Warren George	517	551	1,019	0	1,529	1,886	380	887	853
9062	William Goodrich	174	174	226	0	0	761	761	174	174
9063	Ed Hall Ranch, Inc.	40	40	52	0	0	160	0	40	40
9064	Menter-Rattlesnake	58	46	60	0	0	144	575	37	58
9066	West Fork	294	290	377	0	0	1,680	0	290	294
9067	Antelope Basin	325	325	423	0	0	1,655	0	325	325
9068	Rock Creek	286	286	372	0	50	1,648	190	286	286
9070	Canyon Creek	3	3	4	0	0	40	0	3	3
9071	Slate Creek	22	22	29	0	0	209	28	22	22
9072	Harris Ranch	465	465	605	0	1,664	939	0	465	465
9073	Robert Hawley	26	26	34	0	0	120	0	26	26
9074	Heart B South Pasture	1,110	1,110	1,443	0	230	4,660	922	1,110	1,110
9075	Heart B North Pasture	788	788	1,024	0	0	2,953	1,063	788	788
9078	Indian Guide	233	188	244	11	172	608	384	150	233
9079	Cherry Creek	32	34	44	0	0	640	0	34	32
9080	JW Ranch, Ltd.	42	42	55	0	96	64	0	42	42
9081	Coalbank	10	10	13	0	0	40	0	10	10
9082	Government Creek	25	48	62	0	0	144	16	53	25
9083	Bamforth	85	85	111	0	393	0	0	85	85
9084	Johnston Fuel Liners	570	547	711	0	213	1,935	135	492	570
9086	Bar M Mountain	45	45	59	0	0	635	0	45	45
9087	Kennedy	60	60	78	0	196	454	0	60	60
9089	River Basin	173	173	225	0	0	2,437	0	173	173
9090	Dodge Creek Ranch	88	88	114	0	0	80	238	88	88
9091	Leazenby Lake	40	40	52	0	0	160	0	40	40
9092	Steamboat Rock	648	872	1,134	0	862	3,547	383	959	648

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment Number	Allotment Name	Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres) Poor	Fair	Good	Excellent	Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Alternative C (Continued)										
9093	W. J. Logan	11	11	14	0	8	32	0	11	11
9094	Irvine, J. E. & G. A.	438	479	633	0	0	1,776	196	527	438
9095	James Atkinson	15	15	20	0	0	120	0	15	15
9096	Boswell Ranch	299	305	397	0	28	1,903	685	367	361
9098	Rock Creek	34	34	44	0	0	320	0	34	34
9099	McGill	77	77	100	0	159	638	0	77	77
9100	Paradise Creek	7	7	9	0	0	0	80	7	7
9101	Ione	30	30	39	0	0	200	0	30	30
9102	Sheep Rock	4	4	5	0	20	79	0	4	4
9103	Pinto Creek	370	396	515	0	0	1,332	1,508	436	370
9104	South Wheatland No. 2	1,198	1,198	1,557	0	608	4,567	521	1,198	1,198
9105	J. & J. McLaughlin, Incorporated	1,397	1,398	1,817	0	475	9,067	1,164	1,398	1,397
9106	Mill Creek	143	143	186	0	464	309	0	143	143
9107	Poe Mountain Canyon Creek	161	161	209	0	1,280	80	0	161	161
9108	James Merritt "A"	14	14	18	0	0	57	0	14	14
9109	Strouse Hill	2,451	2,451	3,186	0	200	11,450	596	2,451	2,451
9110	Plumbago Canyon	73	73	95	0	0	0	360	73	73
9113	Sheep Creek	103	103	134	0	0	427	0	103	103
9114	Morgan & Edwards	15	15	20	0	0	160	0	15	15
9115	Needmore Ranch	151	151	196	0	785	785	0	151	151
9117	Downey Lakes	92	92	120	0	52	338	0	92	92
9118	East Jelm Mountain	259	280	364	0	0	891	509	336	330
9119	Holland Lease	83	67	87	0	0	0	440	105	101
9120	Sunrise Creek	182	95	124	0	0	418	612	164	157
9121	Palmer	25	25	33	0	0	160	0	0	25
9122	Werner	4	4	5	0	17	20	0	4	4
9123	Halleck Canyon	82	82	107	0	0	685	0	82	82
9124	Bosler Canal No. 3	36	36	47	0	0	120	0	36	36
9126	Bone Creek	844	974	1,266	0	0	2,465	2,015	1,120	844
9127	Leona Prager	114	117	152	0	0	40	840	117	114
9128	R. O. Corporation	581	581	755	0	331	2,141	353	581	581
9129	Red Mountain	20	20	26	0	0	78	0	20	20
9130	Buford	38	38	49	0	110	0	0	38	38
9131	Dale Robbins	194	184	239	0	0	959	0	184	194

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative C (Continued)										
9132	James Robbins	414	414	538	0	470	2,489	0	414	414
9133	Green Creek	57	40	52	0	85	479	0	34	57
9134	Holaday Place	35	34	45	0	63	185	0	34	35
9135	Badger Creek	26	23	30	0	40	273	0	23	26
9136	Twentymile Draw	940	940	1,222	0	401	3,764	812	940	940
9137	Chislo Ranch	146	146	190	0	0	1,840	80	146	146
9138	Lookout Ranch	648	567	737	150	1,158	2,226	0	482	648
9139	Sand Creek Land and Livestock	241	241	313	0	184	736	0	241	241
9140	Sanders	13	13	17	0	77	0	0	13	13
9141	Mule Creek	146	141	183	0	197	1,209	0	141	146
9142	Sheep Mountain Ranch	789	789	1,026	0	3,086	2,057	0	789	789
9145	Boot Heel	284	297	386	0	0	1,520	0	297	284
9147	Sommers	279	386	502	0	0	1,459	365	463	279
9148	Springfield Ranch, Incorporated	240	250	325	0	0	712	328	25	240
9149	Sterrett	16	16	21	0	24	96	0	16	16
9150	Meiser Lake-Lookout	2,281	2,281	2,965	0	311	6,153	0	2,281	2,281
9151	North Laramie-North Creek	259	259	337	0	224	1,570	448	259	259
9152	Coyote Canyon	33	33	43	0	0	0	280	33	33
9153	Sellers Mountain	410	470	611	0	0	1,096	1,744	564	410
9154	Meiser Creek	220	220	286	0	0	1,366	260	220	220
9155	McFarlane Creek	94	136	177	0	314	811	183	163	94
9156	Duck Creek	45	45	59	0	0	592	0	45	45
9157	T-K Ranch	215	215	280	0	252	1,010	0	215	215
9158	Talbott	18	18	23	0	72	48	0	18	18
9159	Tatman Original	338	338	439	0	0	325	795	338	338
9160	Hirsig Place	545	545	709	0	0	1,016	660	545	545
9161	Dirt Farm	42	42	55	0	0	320	0	42	42
9163	Swan	809	809	1,052	0	0	3,753	0	809	809
9164	Three D's & T	232	32	302	0	110	1,446	0	232	232
9165	Little Laramie River	112	112	146	0	675	0	0	112	112
9166	I-80 Overpass	56	56	73	0	178	0	0	56	56
9167	Canyon Creek	26	26	34	0	0	160	0	26	26
9168	Mud Springs	1,720	1,528	1,986	230	2,005	5,219	1,017	1,222	1,720

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative C (Continued)										
9169	Wallrock Creek	176	168	218	0	665	665	0	168	176
9170	Warren Livestock "A"	280	280	364	0	717	2,869	0	280	280
9171	Warren Livestock "B"	32	32	42	0	40	160	0	32	32
9173	Dutton Creek	139	139	181	0	643	0	0	139	139
9174	Marius Willadsen	8	8	10	0	0	40	0	8	8
9175	Williams Land and Livestock	334	334	434	0	0	1,096	0	334	334
9176	Merrill Draw	184	184	239	0	420	981	0	184	184
9178	Kirk Ranch Natrona	150	156	203	0	734	446	220	187	134
9179	Yankee Draw	311	311	404	0	0	982	767	311	311
9181	Indian Rock	265	265	345	0	0	1,633	136	265	265
9182	Chimney Rock	216	167	217	0	205	818	0	134	216
9183	Laramie Peak BGWR	6	6	8	0	0	40	0	6	6
9184	J. Kennedy's	111	111	144	0	0	860	100	111	111
9185	North Laramie River	15	15	20	0	0	83	0	15	15
9186	Flat Top Allotment	132	132	172	0	0	600	0	132	132
9187	China Wall	102	102	133	0	728	312	0	102	102
9188	South Meiser Creek	112	112	146	0	884	382	0	112	112
9189	George Creek	0	0	0	0	0	0	0	0	0
9190	Northeast Flying X	107	107	139	0	0	621	0	107	107
9191	Plumbago	76	76	99	0	0	890	0	76	76
9192	Section 22	64	64	83	0	0	540	100	64	64
9193	Sawmill	118	118	153	0	0	120	620	118	118
9194	Bluegrass	259	259	337	0	0	1,560	0	259	259
9195	Sugar Loaf	47	47	61	0	0	560	0	47	47
9196	Holman	9	9	12	0	0	40	40	9	9
9197	Desert	45	45	59	0	96	224	0	45	45
9198	Tunnel Road	10	10	13	0	0	46	75	10	10
9199	East Sheldon	0	0	0	0	0	0	0	0	0
9202	Lookout Peak	595	595	774	0	119	476	0	595	595
9203	Upper Pine Ridge	977	1,040	1,352	0	606	2,391	269	1,144	977
9204	Grant Creek	9	9	12	0	0	40	0	9	9
9205	Goat Mountain	45	45	59	0	0	640	0	45	45
	Totals in Medicine Bow Grazing EIS Area	**161,464**	**156,541**	**216,751**	**12,688**	**256,177**	**563,176**	**101,250**	**192,326**	**189,579**

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative D (Preferred Alternative)										
0003	Bates Creek	570	532	868	228	2,144	818	74	638	617
0040	Marton	1,008	663	1,069	0	2,268	1,579	253	796	769
0047	Lone Tree	504	344	492	0	938	881	161	413	399
0061	Squaw Mountain	19	19	25	0	0	280	0	19	19
0216	Taylor-Powder Horn	29	33	65	0	225	78	0	33	29
0261	Gallagher	92	92	120	0	0	412	0	92	92
0289	Horr	76	76	99	0	0	343	0	76	76
0301	Pathfinder	931	1,068	1,577	20	1,753	3,883	628	1,422	1,351
0302	Little Canyon Creek	165	175	278	98	407	511	0	175	165
0303	Canyon Creek	678	487	697	0	1,073	2,032	345	1,443	1,252
0305	Camp Creek	706	447	753	257	2,258	977	5	402	706
0306	Kirk Ranch	365	391	491	0	262	2,383	447	469	453
0307	Bates Hole	1,850	2,512	3,200	9	1,038	7,733	1,565	3,014	2,914
0309	Moss Agate	986	760	1,115	0	2,063	3,032	579	760	986
0310	Antelope Springs	577	457	720	0	1,464	1,490	333	548	530
0311	Bates Benchmark	611	580	1,068	6	1,997	1,722	414	896	831
0312	7E Ranch	1,370	1,163	1,804	2	3,338	3,338	1,190	2,146	1,949
0315	Indian Springs	2,306	2,108	3,014	29	3,119	8,980	1,348	3,180	2,966
0316	Dry Creek Rim	4,346	4,294	5,659	151	3,781	13,233	5,012	4,294	4,294
0317	Upper Dry Creek	608	737	1,083	1	1,696	2,108	422	737	737
0318	Shirley Ridge	981	1,258	1,652	32	817	5,100	1,135	1,635	1,560
0319	Little Medicine	2,898	2,240	3,569	0	7,732	8,731	2,069	2,938	2,798
0320	Leo	748	1,867	3,000	122	3,555	5,204	986	2,240	2,019
0321	Dry Creek	1,213	1,721	2,286	10	2,603	4,800	823	2,259	2,151
0322	Spring Creek	1,912	1,985	3,023	29	1,130	7,065	1,709	2,757	2,603
0323	Black Canyon	2,106	1,985	3,023	31	3,318	4,940	921	1,985	1,985
0324	Palmer-Nelson	898	518	813	22	968	2,216	356	872	801
0325	Cady	20	21	51	43	86	46	0	17	20
0326	Beaver Creek	826	414	792	0	958	944	211	847	760
0327	School Section	222	125	151	0	30	649	75	150	145
0328	Sullivan	20,618	16,587	24,698	285	29,262	53,333	15,777	28,404	26,041
0329	Lost Creek	468	468	694	1	1,104	1,451	294	718	665
0330	House Gulch	631	503	739	29	889	1,096	224	1,054	944
0331	Upper Lost Creek	120	138	161	1	26	382	46	281	252

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative D (Continued)										
0332	Thornton Place	374	378	553	0	1,267	1,307	286	574	535
0333	South Bennett North	772	1,103	1,226	0	1,353	2,112	385	1,824	1,680
0334	Corral Creek	1,181	1,151	1,946	27	2,200	2,706	564	2,674	2,369
0335	Shirley Mountain	3,655	3,265	6,969	75	5,499	3,707	1,190	3,842	3,697
0336	Mud Springs	466	233	275	0	159	620	157	268	466
0337	Bunker	589	1,075	1,475	4	1,590	4,617	690	1,340	1,287
0339	Grasshopper	10	10	13	0	0	40	0	10	10
0340	Horse Springs	1,056	799	1,160	1	1,873	3,116	639	984	947
0351	Edwards	16	16	21	0	0	155	0	16	16
0361	Wilson	8	8	10	0	0	40	0	8	8
0364	Milo	8	8	10	0	0	40	0	8	8
0399	Peterson	10	10	13	0	0	80	0	10	10
0452	Strock	70	70	91	0	0	280	0	70	70
0524	Rock Creek	16	10	25	5	45	0	0	10	16
0801	South Bennett South	387	751	934	6	883	1,367	141	826	387
0802	Tennant Place	18	15	18	0	0	63	0	15	18
0803	Horseshoe Ridge	369	519	787	0	1,879	2,503	272	571	369
0804	South Austin Creek	260	262	388	285	1,067	204	214	210	260
0805	East Seminoe	168	101	174	33	596	655	0	101	168
0806	Schneider Ridge	212	170	227	38	407	388	168	170	212
0807	East Schneider Ridge	1,263	1,467	2,341	448	4,296	2,777	228	1,320	1,263
0808	T. E. Ranch	268	383	495	58	397	600	438	383	268
0809	Medicine Bow	181	143	157	0	44	257	42	157	181
0810	RR 30	72	72	94	0	67	605	0	65	72
0811	Ellis Block	1,604	3,346	3,597	488	3,509	5,976	267	3,011	1,604
0812	Freezeout	73	196	215	27	138	119	0	157	73
0813	Oil Springs	45	76	93	6	117	372	23	61	45
0814	T B Flats D. M.	162	245	273	0	140	703	76	270	162
0817	Little Medicine Bow	269	180	234	0	174	986	0	153	269
0818	T B Flats	60	72	94	0	184	297	31	79	60
0819	North Walcott	3,138	2,374	3,086	460	6,913	24,395	0	2,018	3,138
0820	Quealey Block	3,848	4,077	5,300	0	4,241	18,736	3,770	4,485	3,848
0821	South Seminoe	558	297	386	0	380	1,520	0	238	558
0822	Dana Block North	4,962	4,962	6,451	0	8,204	20,663	913	4,962	4,962
0824	North Area	2,590	914	1,175	25	1,460	3,417	124	914	2,590
0825	Slate Ridge	644	723	940	0	1,831	2,520	580	723	644

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative D (Continued)										
0826	Robbers Roost	960	712	926	199	1,592	3,186	0	570	960
0827	Pass Creek Ridge	3,574	4,833	6,283	173	2,779	17,403	2,904	6,300	6,406
0828	Wilson Pasture	65	36	47	64	256	0	0	29	65
0829	Dana Meadows South	2,336	2,252	2,928	695	9,280	3,776	113	2,252	2,336
0830	Chace Block	2,147	1,585	2,061	1,184	6,459	6,979	374	1,268	2,147
0831	Third Sand Creek	60	81	105	0	0	324	36	89	60
0832	North Anschutz	2,926	2,164	2,813	64	3,491	11,789	1,705	3,347	3,110
0833	East Allen Lake	7	7	9	0	0	243	0	7	7
0834	Foote Creek Pasture	873	883	1,148	0	0	4,264	772	883	873
0836	Pine Ridge	1,711	1,711	2,224	0	4,900	2,833	490	1,711	1,711
0838	South Walcott	323	281	365	138	988	1,180	0	238	323
0839	Lone Tree Allotment	470	494	642	0	1,429	1,130	0	494	470
0840	Soil Bank Pasture	27	14	18	0	8	32	0	11	27
0841	Peterson Ranch	24	14	18	0	16	64	0	11	24
0842	Wolfe	48	19	25	54	216	8	0	15	48
0843	Meads	120	63	82	640	0	0	0	50	120
0844	Pass Creek Flats	413	465	605	2,258	718	1,114	118	512	413
0845	T. A. Ranch	338	381	495	0	2,195	694	54	438	338
0846	Coyote Ditch	12	14	18	0	0	80	0	14	12
0847	Home Pasture	13	14	18	0	0	80	0	14	13
0848	Rattlesnake	202	100	130	19	247	684	0	80	202
0849	Midland	165	159	207	0	0	661	0	159	165
0850	Home Ranch	585	585	761	0	528	3,104	0	585	585
0851	West Elk Mountain	127	127	165	0	0	0	0	127	127
0853	U.L.	120	132	172	0	115	474	51	145	120
0854	South Anchutz Block	363	363	472	0	1,267	1,900	0	363	363
0855	Arlington	142	141	183	0	0	841	0	141	142
0856	Pine Ridge	207	177	230	66	440	374	0	150	207
0857	Bailey	518	603	784	0	496	1,573	262	693	518
0858	Three Mile Tract	8	8	10	0	0	40	0	8	8
0859	Coalbank Mine	294	294	382	0	168	95	0	294	294
0860	Upper Bear Creek	66	66	86	0	0	652	0	66	66
0861	Corpening	30	30	39	0	112	40	0	30	30
0862	Lake Creek Flats	1,215	1,577	2,050	0	7,786	4,642	674	1,892	1,215
0863	North Lake Creek	45	19	25	0	32	128	0	15	45
0864	Sixmile Hill	16	16	21	0	0	133	0	16	16

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative D (Continued)										
0865	Lake Creek	136	136	177	1,150	130	0	0	136	136
0866	Buck Springs Draw	188	188	244	630	500	310	0	188	188
0867	Petry, 4900	202	202	263	0	1,280	15	0	202	202
0868	V U	357	357	464	0	1,076	1,306	265	753	674
0869	Cedar Creek	10	10	13	0	0	120	0	10	10
0870	East Coad Mountain	40	27	35	4	49	137	0	22	40
0871	Basin Ranch	127	127	165	0	152	608	0	127	127
0872	Overland Trail	24	24	31	0	0	120	0	24	24
0873	Dixon Block	151	151	196	0	151	606	0	151	151
0875	Cooper Hill	121	120	156	0	0	840	0	120	121
0876	Seven Mile	60	60	78	0	120	280	0	60	60
0877	Miller	54	54	70	104	0	0	194	54	54
0878	County Line	74	58	75	0	48	272	0	49	74
0879	Lonesome Fox	18	18	23	0	50	50	0	18	18
1001	A Bar A Ranch	1,127	1,127	1,465	0	3,592	2,095	299	1,127	1,127
1002	Anderson Reservoir	23	23	30	16	144	0	0	21	23
1003	Corral Creek	132	132	172	0	462	667	191	408	353
1004	Bennett Peak	143	143	186	0	789	564	487	297	266
1005	Wood Hill	26	26	34	0	280	80	0	26	26
1006	Silver Spur Ranch	381	381	495	0	1,315	438	0	381	381
1007	Robert A Dynes	7	7	9	0	0	119	0	7	7
1008	Finch Ranch	138	138	179	0	605	950	364	166	160
1009	Cherokee Creek	123	123	160	0	480	480	0	123	123
1010	Herring & Herring	165	165	215	0	664	1,044	190	198	191
1011	A. R. Huston	87	86	112	101	340	580	239	153	140
1013	Tennant Creek	127	63	82	0	128	528	73	126	113
1014	Kraft Ranch	12	12	16	0	0	240	0	12	12
1015	Flying Diamond	229	229	298	0	275	733	112	415	378
1016	Norman Merrill	36	36	47	0	140	60	0	36	36
1017	Cottonwood	220	220	286	0	0	1,769	197	267	258
1018	Beaver Creek Hills	317	317	412	0	406	1,220	0	317	317
1019	Albert H. Oldman	48	48	62	0	157	247	156	121	106
1020	East Fork	20	20	26	0	80	100	20	20	20
1021	Platt	251	251	326	0	335	781	0	251	251
1022	Romios Ranch	265	265	345	0	742	1,166	212	468	427
1023	Arthur Rouse	251	251	326	0	460	722	695	426	391

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative D (Continued)										
1024	Beaver Creek Hills	144	144	189	0	48	912	0	144	144
1025	Fred Rutschman	22	22	29	0	0	195	0	22	22
1026	Ryan Ranches	78	78	101	0	394	394	0	78	78
1027	Sanger	699	699	909	0	752	3,258	1,002	699	699
1029	Saulcy	291	291	378	0	666	1,904	602	499	457
1031	North Fork	63	63	82	125	250	504	82	54	63
1032	Cotton Reservoir	270	270	351	0	0	1,880	0	270	270
1033	Antelope Creek	45	31	40	0	257	257	64	31	45
1034	Wiant	27	27	35	0	320	0	0	27	27
1035	Willford Ranches	199	199	259	0	581	581	129	199	199
1036	Cottonwood Corral Creek	234	229	298	0	0	1,192	845	775	666
1038	Forster	8	8	10	0	18	17	0	8	8
1039	Little Beaver Creek	160	160	208	0	320	480	0	160	160
1041	South Cedar Creek	8	8	10	0	40	40	0	8	8
1042	Dufunny	20	20	26	0	0	320	0	20	20
1043	Beaver Creek South	11	11	14	0	0	80	0	11	11
1044	Sowder-McNaney	92	92	120	0	272	272	0	92	92
1045	Chad	295	295	384	0	1,263	1,264	0	295	295
1046	McCoid-Harrison	93	93	121	0	298	298	0	93	93
1047	Horn and Meason	67	67	87	0	393	392	0	67	67
1048	Kennaday	137	137	178	0	406	638	116	314	279
1049	Prospect Mountain	1,494	1,494	1,942	0	3,770	3,141	943	2,293	2,133
1050	Platt Mine	205	205	266	0	222	573	129	296	278
1200	Belvoir Grazing	10	10	13	0	0	40	0	10	10
1201	Bowman	58	58	75	0	160	0	0	58	58
1202	Spring Creek	0	0	0	0	0	0	0	0	0
1203	Merrill Farthing	75	75	98	0	65	585	0	75	75
1204	Ferguson Ranch "A"	52	52	61	0	0	360	0	52	52
1205	Ferguson Ranch "B"	18	18	23	0	0	160	0	18	18
1207	A. E. Hodgson	11	11	14	0	0	40	0	11	11
1208	Sand Creek	8	8	10	0	0	40	0	8	8
1209	Lazy D	15	15	20	0	61	0	0	15	15
1210	Ab. Lorenz	593	593	771	0	293	2,641	0	593	593
1211	McIntyre Draw	64	64	83	0	32	288	0	64	64
1212	J. D. McLees	135	137	178	0	660	190	310	137	135

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative D (Continued)										
1213	James Merritt "B"	120	120	156	0	0	661	0	120	120
1214	Moritz Brothers, Incorporated	80	80	104	0	320	0	0	80	80
1215	Soapstone Grazing Association	10	10	13	0	0	40	0	10	10
1216	Switzer	8	8	10	0	0	40	0	8	8
1218	Lodgepole Creek	120	120	156	0	0	480	0	120	120
1219	Andres Willadsen	8	8	10	0	0	40	0	8	8
1220	South of Happy Jack	13	13	17	0	0	77	0	13	13
1221	Threemile	172	172	224	0	0	80	644	172	172
9001	Anchor Ranch	72	72	94	0	96	64	0	72	72
9002	Anderson	60	60	78	0	240	0	0	60	60
9003	Associated Enterprises A	32	32	42	0	0	280	0	32	32
9004	Associated Enterprises B	112	112	146	0	0	1,000	0	112	112
9005	Bailey Atkinson	375	375	488	0	40	2,150	0	375	375
9006	Ken Atkinson	359	359	467	0	202	1,879	0	359	359
9007	Dale Creek	12	12	16	0	0	40	0	12	12
9008	L. W. Bailey	74	74	96	0	80	240	0	74	74
9009	WLX	501	501	651	0	354	3,182	0	501	501
9011	Bessie Bath	172	172	224	0	330	495	0	172	172
9012	Bath Brothers	310	310	403	0	0	1,240	0	310	310
9013	John and Marie Bell	1,070	1,070	1,391	0	1,336	5,346	0	1,070	1,070
9014	Bell-Otte Ranch	115	129	168	0	171	1,544	0	129	115
9017	The Buttes	48	48	62	0	32	256	32	48	48
9018	North Lodgepole Creek	37	37	48	0	48	112	0	37	37
9019	Frank Booth	260	260	338	0	495	742	0	260	260
9020	Bovee Horse Pasture	8	13	17	0	80	0	0	13	8
9021	Bovee	379	379	493	0	0	855	1,495	455	440
9022	Gibbs Place	282	282	367	0	0	1,664	0	282	282
9023	Wheatland Tunnel	498	505	657	0	0	2,960	0	505	498
9024	Wheatland Reservoir Number 2	132	132	172	0	0	800	0	132	132
9025	James Lake	675	676	879	0	1,588	2,950	0	676	676
9026	Waechter Canyon	156	156	203	0	0	643	34	156	156
9027	Woodrow Brow	165	165	215	0	420	1,260	0	165	165
9028	Bear Head Mountain	8	8	10	0	0	0	80	8	8

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative D (Continued)										
9029	Indian Rock	110	79	103	0	8	160	512	63	110
9030	Burnett Creek	314	452	1,065	400	1,557	156	0	361	371
9031	Pinto Rocks	81	81	105	0	425	424	0	81	81
9032	J. H. Butler	7	7	9	0	20	21	0	7	7
9033	Carlin Ranch	300	364	473	0	771	1,130	117	400	300
9034	Palmer Canyon	71	71	92	0	84	196	0	71	71
9035	Chalk Hills Dry Creek	2,724	2,207	3,519	0	7,215	8,495	2,348	4,433	3,988
9036	Pine Ridge	55	55	72	0	0	240	0	55	55
9037	Bull Camp Peak	678	678	881	0	1,095	3,066	219	678	678
9038	Ervin Corl	7	7	9	0	20	20	0	7	7
9039	Croonberg Ranch	215	215	280	0	640	800	0	215	215
9040	Parsons Creek	93	177	499	119	787	258	130	261	245
9041	Davidson Creek	882	743	1,216	8	3,581	2,336	29	743	882
9042	Cross Isolated Tract	18	18	23	0	20	100	0	18	18
9043	Owen Creek	66	66	86	0	118	277	0	66	66
9044	Wheatland Number 3	976	1,218	1,583	384	96	1,404	2,861	1,462	976
9045	North Fork	54	54	70	0	0	320	0	54	54
9046	Dale Creek	60	60	78	0	96	144	0	60	60
9047	Junction	182	178	231	0	75	684	81	160	182
9048	Carroll and Carroll	136	136	177	0	52	468	0	136	136
9049	Double K Ranch	181	181	235	0	0	798	0	181	181
9050	Dumbell Ranch Company	11	5	7	0	0	120	0	4	11
9051	Mule-Rogers Creek	1,638	1,638	2,129	0	355	4,064	2,717	1,638	1,638
9052	Spring Creek	298	298	87	0	0	480	982	298	298
9053	Strain	13	13	17	0	30	110	0	13	13
9054	Woods Landing	46	40	52	0	0	0	238	40	46
9055	Ferguson Ranch "C"	31	44	57	0	0	258	0	44	31
9056	PR5 Ranch	111	68	78	36	252	433	0	68	111
9057	South Fork	101	101	131	0	237	356	0	101	101
9058	40 Mile Creek	16	16	21	0	0	40	40	16	16
9059	Charles Garrett	67	70	91	0	0	10	630	70	67
9060	Sybille Creek	170	149	194	19	289	656	0	149	170
9061	Warren George	517	551	1,019	0	1,529	1,886	380	887	820
9062	William Goodrich	174	174	226	0	0	761	761	174	174
9063	Ed Hall Ranch, Inc.	40	40	52	0	0	160	0	40	40
9064	Menter-Rattlesnake	58	46	60	0	0	144	575	37	58

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative D (Continued)										
9066	West Fork	294	290	377	0	0	1,680	0	290	294
9067	Antelope Basin	325	325	423	0	0	1,655	0	325	325
9068	Rock Creek	286	286	372	0	50	1,648	190	286	286
9070	Canyon Creek	3	3	4	0	0	40	0	3	3
9071	Slate Creek	22	22	29	0	0	209	28	22	22
9072	Harris Ranch	465	465	605	0	1,664	939	0	465	465
9073	Robert Hawley	26	26	34	0	0	120	0	26	26
9074	Heart B South Pasture	1,110	1,110	1,443	0	230	4,660	922	1,110	1,110
9075	Heart B North Pasture	788	788	1,024	0	0	2,953	1,063	788	788
9078	Indian Guide	233	188	244	11	172	608	384	150	233
9079	Cherry Creek	32	34	44	0	0	640	0	34	32
9080	JW Ranch, Ltd.	42	42	55	0	96	64	0	42	42
9081	Coalbank	10	10	13	0	0	40	0	10	10
9082	Government Creek	25	48	62	0	0	144	16	53	25
9083	Bamforth	85	85	111	0	393	10	0	85	85
9084	Johnston Fuel Liners	570	547	711	0	213	1,935	135	592	570
9086	Bar M Mountain	45	45	59	0	0	635	0	45	45
9087	Kennedy	60	60	78	0	196	454	0	60	60
9089	River Basin	173	173	225	0	0	2,437	0	173	173
9090	Dodge Creek Ranch	88	88	114	0	0	80	238	88	88
9091	Leazenby Lake	40	40	52	0	0	160	0	40	40
9092	Steamboat Rock	648	872	1,134	0	862	3,547	383	959	648
9093	W. J. Logan	11	11	14	0	8	32	0	11	11
9094	Irvine, JE & GA	433	479	633	0	0	1,766	196	527	438
9095	James Atkinson	15	15	20	0	0	120	0	15	15
9096	Boswell Ranch	299	305	397	0	28	1,903	685	367	355
9098	Rock Creek	34	34	44	0	0	320	0	34	34
9099	McGill	77	77	100	0	159	638	0	77	77
9100	Paradise Creek	7	7	9	0	0	0	80	7	7
9101	Ione	30	30	39	0	0	200	0	30	30
9102	Sheep Rock	4	4	5	0	20	79	0	4	4
9103	Pinto Creek	370	396	515	0	0	1,332	1,508	436	370
9104	South Wheatland Number 2	1,198	1,198	1,557	0	608	4,567	521	1,198	1,198
9105	J. & J. McLaughlin, Incorporated	1,397	1,398	1,817	0	475	9,067	1,164	1,398	1,397

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative D (Continued)										
9106	Mill Creek	143	143	186	0	464	309	0	143	143
9107	Poe Mountain Canyon Creek	161	161	209	0	1,280	80	0	161	161
9108	James Merritt "A"	14	14	18	0	0	57	0	14	14
9109	Strouse Hill	2,451	2,451	3,186	0	200	11,450	596	2,451	2,451
9110	Plumbago Canyon	73	73	95	0	0	0	360	73	73
9113	Sheep Creek	103	103	134	0	0	427	0	103	103
9114	Morgan & Edwards	15	15	20	0	0	160	0	15	15
9115	Needmore Ranch	151	151	196	0	785	785	0	151	151
9117	Downey Lakes	92	92	120	0	52	288	0	92	92
9118	East Jelm Mountain	259	280	364	0	0	891	509	336	325
9119	Holland Lease	83	67	87	0	0	0	440	105	97
9120	Sunrise Creek	182	95	124	0	0	418	612	164	150
9121	Palmer	25	25	33	0	0	160	0	25	25
9122	Werner	4	4	5	0	17	20	0	4	4
9123	Halleck Canyon	82	82	107	0	0	685	0	82	82
9124	Bosler Canal No. 3	36	36	47	0	0	120	0	36	36
9126	Bone Creek	844	974	1,266	0	0	2,465	2,015	1,120	844
9127	Leona Prager	114	117	152	0	0	40	840	117	114
9128	R. O. Corporation	581	581	755	0	331	2,141	353	581	581
9129	Red Mountain	20	20	26	0	0	78	0	20	20
9130	Buford	38	38	49	0	110	0	0	38	38
9131	Dale Robbins	194	184	239	0	0	959	0	184	194
9132	James Robbins	414	414	538	0	470	2,489	0	414	414
9133	Green Creek	57	40	52	0	85	479	0	34	57
9134	Holaday Place	35	34	45	0	63	185	0	34	35
9135	Badger Creek	26	23	30	0	40	273	0	23	26
9136	Twentymile Draw	940	940	1,222	0	401	3,764	812	940	940
9137	Chislo Ranch	146	146	190	0	0	1,840	80	146	146
9138	Lookout Ranch	648	567	737	150	1,158	2,226	0	482	648
9139	Sand Creek Land and Livestock	241	241	313	0	184	736	0	241	241
9140	Sanders	13	13	17	0	77	0	0	13	13
9141	Mule Creek	146	141	183	0	197	1,209	0	141	146
9142	Sheep Mountain Ranch	789	789	1,026	0	3,086	2,057	0	789	789
9145	Boot Heel	284	297	386	0	0	1,520	0	297	284

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment		Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Long-term Change in Ecological Condition (acres)				Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Number	Name				Poor	Fair	Good	Excellent		
Alternative D (Continued)										
9147	Sommers	279	386	502	0	0	1,459	365	463	279
9148	Springfield Ranch, Incorporated	240	2500	325	0	0	712	328	250	240
9149	Sterrett	16	16	21	0	24	96	0	16	16
9150	Meiser Lake-Lookout	2,281	2,281	2,965	0	311	6,153	3,126	2,281	2,281
9151	North Laramie-North Creek	259	259	337	0	224	1,570	448	259	259
9152	Coyote Canyon	33	33	43	0	0	0	280	33	33
9153	Sellers Mountain	410	470	611	0	0	1,096	1,774	564	410
9154	Meiser Creek	220	220	286	0	0	1,366	260	220	220
9155	McFarlane Creek	94	136	177	0	314	811	183	163	94
9156	Duck Creek	45	45	59	0	0	592	0	45	45
9157	T-K Ranch	215	215	280	0	252	1,010	0	215	215
9158	Talbott	18	18	23	0	72	48	0	18	18
9159	Tatman Original	338	338	439	0	0	325	795	338	338
9160	Hirsig Place	545	545	709	0	0	1,016	660	545	545
9161	Dirt Farm	42	42	55	0	0	320	0	42	42
9163	Swan	809	809	1,052	0	0	3,753	0	809	809
9164	Three D's & T	232	232	302	0	110	1,446	0	232	232
9165	Little Laramie River	112	112	146	0	675	0	0	112	112
9166	I-80 Overpass	56	56	73	0	178	0	0	56	56
9167	Canyon Creek	26	26	34	0	0	160	0	26	26
9168	Mud Springs	1,722	1,528	1,986	230	2,005	5,219	1,017	1,222	1,722
9169	Wallrock Creek	176	168	218	0	665	665	0	168	176
9170	Warren Livestock "A"	280	280	364	0	717	2,869	0	280	280
9171	Warren Livestock "B"	32	32	42	0	40	160	0	32	32
9173	Dutton Creek	139	139	181	0	643	0	0	139	139
9174	Marius Willadsen	8	8	10	0	0	40	0	8	8
9175	Williams Land and Livestock	334	334	434	0	0	1,096	0	334	334
9176	Merrill Draw	184	184	239	0	420	981	0	184	184
9178	Kirk Ranch Natrona	150	156	203	0	734	446	220	187	134
9179	Yankee Draw	311	311	404	0	0	982	767	311	311
9181	Indian Rock	265	265	345	0	0	1,633	136	265	265
9182	Chimney Rock	216	167	217	0	205	818	0	134	216
9183	Laramie Peak BGWR	6	6	8	0	0	40	0	6	6

TABLE LVGR-AP-6 (Continued)

PROJECTED LONG-TERM ECOLOGICAL CONDITION BY ALLOTMENT FOR EACH ALTERNATIVE

Allotment					Long-term Change in Ecological Condition (acres)					
Number	Name	Preference (AUMs)	Current Production (AUMs)	Potential Production (AUMs)	Poor	Fair	Good	Excellent	Long-term Predicted Livestock Forage Production (AUMs)	Authorized Use (AUMs)
Alternative D (Continued)										
9184	J. Kennedy's	111	111	144	0	0	860	100	111	111
9185	North Laramie River	15	15	20	0	0	83	0	15	15
9186	Flat Top	132	132	172	0	0	600	0	132	132
9187	China Wall	102	102	133	0	728	312	0	102	102
9188	South Meiser Creek	112	112	146	0	884	382	0	112	112
9189	George Creek	0	0	0	0	0	0	0	0	0
9190	Northeast Flying X	107	107	139	0	0	621	0	107	107
9191	Plumbago	76	76	99	0	0	890	0	76	76
9192	Section 22	64	64	83	0	0	540	100	64	64
9193	Sawmill	118	118	153	0	0	120	620	118	118
9194	Bluegrass	259	259	337	0	0	1,560	0	259	259
9195	Sugar Loaf	47	47	61	0	0	560	0	47	47
9196	Holman	9	9	12	0	0	40	40	9	9
9197	Desert	45	45	59	0	96	224	0	45	45
9198	Tunnel Road	10	10	13	0	0	46	75	10	10
9199	East Sheldon	0	0	0	0	0	0	0	0	0
9202	Lookout Peak	595	595	774	0	119	476	0	595	595
9203	Upper Pine Ridge	977	1,040	1,350	0	606	2,391	269	1,144	977
9204	Grant Creek	9	9	12	0	0	40	0	9	9
9205	Goat Mountain	45	45	59	0	0	640	0	45	45
	Totals in Medicine Bow Grazing EIS Area	**161,464**	**156,541**	**216,751**	**12,529**	**253,069**	**561,617**	**106,076**	**191,610**	**185,905**

OIL AND GAS APPENDIX

METHODOLOGY

The methodology used to project future oil and gas activity is described below.

For a better understanding of oil and gas activity in the planning area, all individual well records were reviewed. The wells were categorized according to the date drilled, mineral ownership (federal, state, or private), well status (producer or nonproducer), and success ratio (ratio of producing wells to all wells drilled). Wells in the planning area were grouped into four areas: Washakie-Red Desert, Lost Soldier-Wertz-Mahoey Dome-Bunker Hill, Albany and Laramie counties, and all other wells (see table 28 in chapter 4).

A graph (figure O&G AP-1) was constructed with years on the "X" axis and number of wells on the "Y" axis. The "most probable drilling activity" line was constructed by drawing a straight line through the most reasonable data points for the past 30 years (1955 through 1985). The anomalous points in the boom years (1975 through 1982) were discounted. The slope of the line represents an increase of four wells for every seven and a half years.

PROCEDURES IN OIL AND GAS RECOVERY

Geophysical Exploration

Description

Oil and gas geophysical exploration includes activities relating to the search for evidence of oil and gas, including geophysical operations, construction of roads and trails, and cross-country transit of vehicles for geophysical operations. It does not include core drilling for subsurface geologic information or drilling for oil and gas; these activities are authorized by the issuance of an oil and gas lease and the approval of an application for a permit to drill (APD).

In this planning area, the BLM accepts notices of intent to conduct oil and gas exploration on public lands (lands administered by the BLM) that are open to oil and gas leasing.

Methods of geophysical exploration generally fall into three categories: gravitational exploration, magnetic exploration, and seismic exploration.

Methods

Gravitational Exploration

Gravitational exploration employs the use of an instrument called a gravimeter. It can detect variations in the gravitational pull of rocks that lie as much as several miles below the earth's surface. Because large masses of dense rock increase the pull of gravity, gravimeter readings at a number of surface points provide a key to mapping underlying structural conditions. This type of geophysical survey usually is carried out by one person or by a two-person crew, and it generally is confined to existing roads and trails or areas accessible by helicopter and foot.

Magnetic Exploration

Magnetic exploration employs the use of an instrument called a magnetometer. The magnetometer measures variations in the earth's magnetic field caused by changes in magnetic properties of subsurface rocks. Resembling a large camera, the magnetometer is used both on the ground and in the air to measure magnetic intensity accurately. Airborne, it is a particularly effective means of mapping the broad structural characteristics of large areas.

Sedimentary rocks-those associated with oil and gas-generally have low magnetic properties compared to the others, particularly igneous rocks, which are much denser and contain more iron.

As a widely used reconnaissance tool, the magnetometer has been responsible for identifying and mapping some of the world's best oil exploration areas. Since this operation is

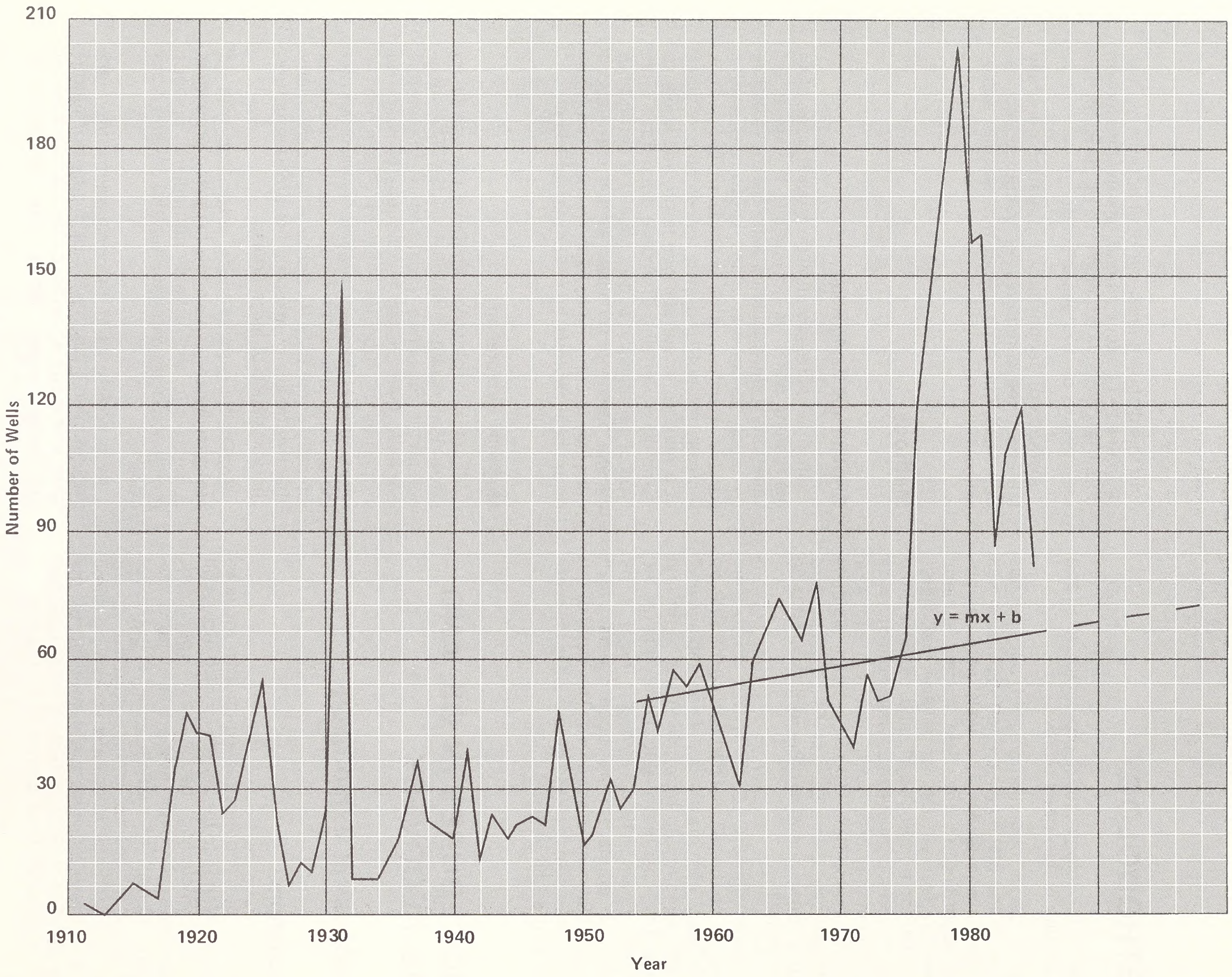

Figure O&G—AP—1
OIL AND GAS DRILLING ACTIVITY

normally used with aircraft, filing a notice of intent with the BLM is seldom required.

Seismic Exploration

Seismic exploration is the most commonly used geophysical method in the planning area. This method uses seismic waves (sound waves) generated at or near the surface to penetrate the earth's crust and to reflect from subsurface rock layers back to the surface. There the reflected signals can be recorded, just as is done with radar. The geophysicist receives a printed record, or seismogram, from which he can measure the depth to various strata.

When a series of seismic shots is made over a considerable distance, the resulting succession of seismograms will show a cross section of the subsurface. Ideally, such a section will reveal patterns of the subsurface strata such as faults, anticlines, folds, and other subsurface structures.

One method employs dynamite for generating seismic waves. A truck-mounted drill is used to drill shot holes to a depth of 50 to 200 feet. Four to twelve holes in line are drilled per mile, depending on the terrain and the size of the charge. The holes are loaded with 5 to 110 pounds of explosives and detonated. The same hole may be reloaded several times to find the depth and explosive charge that will return the best reflection or refraction signal.

After detonation of the charges, the holes are plugged in accordance with state rules. In cases where coal seams or aquifers are encountered in the hole, the stratum containing the coal or water is sealed with cement as part of the plugging. This prevents potential spontaneous combustion of the coal or contamination or depletion of the aquifer.

In addition to the dynamite method, there are the thumper and vibrator methods. These methods use truck-mounted equipment to pound or vibrate the earth. Less than 50 square feet of surface area is required to operate the equipment at each test site.

Both the dynamite and vibrator methods use truck-mounted recording equipment and a series of small detectors. The small detectors placed on the ground at spaced intervals transmit to the recording equipment the time it takes the shock wave to return from the subsurface. The sensors and energy source are located along straight seismic lines laid out on a 1- to 2-mile grid. Existing road systems are used where available. Roads may be cleared of vegetation and loose rocks to improve access for trucks if that action is allowed by the permit. Blading to clear brush and cut roads is not permitted today as it was in the past.

A typical seismic operation may be conducted by ten to fifteen workers operating five to seven trucks. Under normal conditions, 3 to 5 miles of line can be surveyed each day, and operations can continue yearlong.

In areas with rugged terrain or without access roads, and at certain seasons of the year, seismic work is sometimes done without ground vehicles. Workers and equipment are flown in by helicopter from a staging area. Electronic probes or explosives are placed on stakes a few feet off the ground, directly on the ground, or in shallow holes (20 feet deep or less). The shallow drill hole method is occasionally combined with other methods when topography prevents access by trucks.

Information from geophysical exploration may lead oil companies or others to request that lands be offered for lease, or they may proceed with exploratory drilling on existing leases.

Standards and Regulations

The geophysical industry and the BLM have cooperated to develop standards that operators will follow when conducting geophysical operations on public lands. These standards are outlined in the BLM Manual, Wyoming Supplement 3045. The geophysical operator has a responsibility to cooperate and coordinate operations with the BLM area manager.

The geophysical operator is required to file a "Notice of Intent to Conduct Oil and Gas Exploration Operations" with the BLM for all operations on public lands. The operator must be bonded. The operator must notify the area manager before entering onto public lands. The BLM also must be notified when operations are completed on public lands listed on the notice. The operator must obtain the area manager's written approval before commencing any surface-disturbing activities such as the use of bulldozers. The operator also must notify the BLM before proceeding with changes in the original notice. The operator may be required to submit an acceptable archeological survey. The operator must file a "Notice of Completion of Geophysical Exploration" in person or by mail after rehabilitation work is completed.

The BLM area manager is responsible for examination of resource values, development of appropriate surface protection and reclamation measures, ensuring proper bonding, compliance inspections, and final inspection after the "Notice of Completion" is filed. The area manager must contact the operator immediately after the "Notice of Intent" is filed and explain the terms of the notice, including the operating procedures to be followed or avoided, and all current laws and all BLM administrative requirements.

The geophysical operator also files an application with the Wyoming State Oil and Gas Commission and is therefore held to state standards for plugging shot holes, personnel safety, and other state regulations. BLM personnel routinely work with Wyoming State Oil and Gas personnel.

The Leasing Process

Types of Leases

Oil and gas leases fall into two categories, competitive and noncompetitive. Competitive leases are issued in areas known to produce oil and gas, which are called known geological structures (KGSs). Noncompetitive leases are for land outside KGSs. They are available either through open land (over-the-counter) offers or simultaneous filing for lands previously leased.

The BLM's Wyoming State Office has the primary responsibility to identify and compile lists of land parcels for competitive sale every 60 days. For parcels whose surface is administered by a surface-managing agency other than the BLM, the parcel description is sent to the surface-managing agency for surface stipulations and that agency's concurrence to lease.

BLM district and resource area offices verify KGS status, recommend any deletions or additions to the list, specify stipulations to protect surface resources and other special conditions, and prepare a discounted cash flow analysis.

Competitive Leasing-Known Geologic Structures

When a tract of federal land has been determined to be within the area of a producing or presumptively productive oil or gas field, the federal land must be included in a formally described KGS. The land inside a KGS is likely to be developed if it has not already been developed.

A KGS designation means that leasing in that area will be competitive, the rate of lease rental will be double the amount for a noncompetitive lease, and the royalties paid to the federal government will be a higher percentage of production than that required on noncompetitive leases.

Since the reservoir limits have been delineated and schedules have been shortened, increased activity is more likely, success rates are higher, and revenue to the government increases.

Sealed bonus bids are accepted for each tract recommended for lease. After bids are opened, the BLM determines their adequacy. Competitive leases are issued for five years.

Noncompetitive Leasing

For noncompetitive (over-the-counter) leases, action is initiated when an applicant applies for an unleased parcel in a non-KGS area. If the land is available, the BLM district office responds with any recommendations and, upon approval, the lease is issued to the applicant without competition or drawing.

In "simultaneous filing," previously leased parcels in non-KGS areas are listed bimonthly as they become available following termination of the old leases. The BLM district office makes recommendations as to land-use suitability.

Once a list is approved and advertised, all applications received during the filing period are considered to have been filed simultaneously. An applicant may file only one application per tract. A lottery-type drawing is held in which one application is drawn for each tract. If there are no applications for the tract, it is available to the first applicant subsequent to the drawing.

Noncompetitive leases are issued for ten years. All leases require either yearly rent payment in advance or (in the case of production on the lease) a percentage of the value of production. This percentage is called royalty. The royalties received for the leases are at a rate of 12½% to 25% for oil, and 12½% or 16⅔% for gas. The annual rental payments are $1, $2, or $3 per acre, depending on the type of lease.

Since ½ of the revenue collected on federal leases is returned to the state of Wyoming, oil and gas lease development is very important to state and local economics. Further details on leasing regulations and requirements can be found in 43 CFR 3100.

Permitting

All proposed drilling operations and related surface-disturbing activities must be approved before entry upon the lands involved. The operator files an application for permit to drill (APD), which must be approved in accordance with (a) lease stipulations, (b) 43 CFR 3160, "Onshore Oil and Gas Operations," and (c) Onshore Oil and Gas Order No. 1.

On-site inspections usually are required for all exploratory wells. On-site inspections of proposed development or in-fill well locations may not be required if an earlier and appropriate environmental assessment has been completed for the field that includes the location in question. The inspection makes possible selection of the most feasible site and access road from environmental, geological, and engineering points of view. Surface use and reclamation stipulations are developed during the on-site inspection.

The authorized officer will act on the application in one of two ways:

> Approval: the authorized officer approves the application (a) as submitted or (b) with appropriate modifications or stipulations, or
>
> Return: the authorized officer returns the application and (a) advises the lessee or operator of the reasons for disapproval or (b) advises the lessee or operator of the reason why final action has been delayed and the date such final action is expected.

For drilling operations on lands with state or private mineral ownership, the lessee must meet the requirements of the surface owner and the lease administrator. The BLM does not have jurisdiction over nonfederal minerals; however, the BLM may have surface management responsibility in some situations of nonfederal mineral ownership.

Construction

Drilling causes little or no surface disturbance, but the construction necessary before drilling begins can involve considerable surface disturbance. Roads and well sites need to be constructed before drilling can begin. The degree of surface disturbance necessary depends on the terrain and the depth of the drill test. Rig size and the rig's mud system efficiency also are factors; for example, a 20,000-foot rig may be moved in on a 14,000-foot hole.

Reserve pit size may vary for rigs of the same size because of different mud system efficiencies. The depth of the drill test determines the size of the work area necessary, the need for all-weather roads, water requirements, and other needs. The terrain influences the construction problems and the amount of surface area to be disturbed; for example, it is easier to build on a flat area than in the mountains.

In general, access roads to well sites in the planning area consist of running surfaces 16 to 18 feet wide that are ditched on one or both sides. Many of the roads constructed would follow existing roads or trails; however, new roads might be necessary because existing roads are not at an established standard; for example, a road may be too steep, so that realignment is necessary.

Roads may be permanent or temporary, depending on the success of the well. The initial construction may be for a temporary road; however, it is designed so that it can become permanent if the well produces. Not all temporary roads constructed are rehabilitated when the drilling stops. A temporary road often is used as access to other drill sites or for further development. The main roads, and often temporary roads, require graveling to be maintained as all-weather roads. This is especially important in the spring. Roads on public lands may be required to reach a well site on private or state land.

Well sites usually cover 2 to 6 acres. They are cleared of all vegetation, and 1 to 3 acres are graded nearly flat. The combination of rough terrain and deep wells makes larger disturbed areas the norm. Topsoil is stockpiled near the site for later use in reclaiming the site.

The drilling platform is constructed with the use of bulldozers and/or motor scrapers. The platform usually is flat (to accommodate the drill rig and its support equipment) and large enough to store all the equipment and supplies without restricting safe work areas. The drill rig itself must set up on cut and not on fill so there will be no danger of the rig falling over because of unstable ground. The degree of cutting and filling necessary depends on terrain; that is, the flatter the site, the less the work.

Hillside locations are common, and the degree of dirt work varies with the steepness of the hillside. A typical platform would require a cut (highwall) 20 feet deep against the hill and a fill 10 feet high on the outside. It is normal to have more cut than fill, and the excess material is then stockpiled. Eventually, when the well is plugged and abandoned, excavated material is put back in its original place.

Reserve mud pits are constructed adjacent to or on the platform. Common practice has been to place the pit(s) adjacent to the fill but below the platform elevation. Pit construction involves excavation and embankment construction to form a small pond to hold drilling fluids. The size and number of pits depends on the depth of the well and anticipated down hole problems such as excess water flows.

An adequate supply of water is required for drilling operations and other uses. The sources of water can be a water well at the drill site or remote sources such as streams, ponds, or wells. The water is transported to the rig by truck or pipeline. Pipelines are normally small diameter surface lines. The operator must file for and obtain all necessary permits for water from the Wyoming State Engineer's Office. On public lands an operator must also have the BLM's permission before surface water can be used.

Drilling Operations

Drilling is begun by placement of a conductor pipe to a depth of 15 to 20 feet. This keeps surface sand and dirt from sloughing down the well. Then the rotary drill bit and drill string are rotated and gradually lowered into the conductor pipe as the bit bores into the earth.

Another string of pipe called surface casing is set inside the conductor pipe when the hole reaches a depth of several hundred feet. Surface casing is a safety string to protect fresh water and sands and to prevent the well from "blowing out" if a high pressure zone is encountered. Cement is used to fill the space between the side of the hole and the surface casing. This prevents fluids from leaking and anchors the casing.

Mud (a mixture of water, clay, and chemical additives) is forced under pressure down the drill pipe to cool and clean the drill bit and to carry cuttings to the surface. If no oil or gas is encountered, the well is plugged with cement and abandoned. If the well is a producer, casing is run to the bottom of the hole and cemented in place.

Development and Production

Beginning of Development

Development begins when a well yields oil or gas in commercial quantities. If formation pressure is sufficient to raise oil to the surface, the well is completed as a flowing well. Several acid or fracture treatments may be tried before a well is determined to be nonflowing.

When the well is completed as a free-flowing well, an assembly of valves and special connections known as a "Christmas tree" (so called because of its many branch-like fittings) is installed on top of the casing to regulate the flow of the well. Later, when the natural pressure declines, the Christmas tree may give way to a simple wellhead arrangement of valves and a pumping unit to lift the oil artificially.

Lifting Facilities

Some wells require an artificial lift to bring the oil to the surface. Pumping and a technique known as "gas lift" are the methods used. All pump systems require surface equipment. The resulting noise levels vary. Surface pumps usually are powered either by electric motors or internal combustion engines.

Gas lift is used in some oil fields where low cost, high pressure natural gas is available and where pressure in the petroleum reservoir is sufficient to force the petroleum partway up the well. The addition of gas lowers the specific gravity of the petroleum so that it flows to the surface. The system is quiet and uses little land; however, it will be used less in the future as supplies of high pressure natural gas decline.

Most gas wells produce by normal flow and do not require pumping. Surface use at a flowing well is usually a small area containing a gas well "Christmas tree," a dehydrator, a produced water pit, and a meter house. Separators, condensate tanks, and compressors also may be included. Some gas wells require almost continuous water pumping as water entering the well chokes off the gas flow.

Development may take years and include from one or two wells to more than a hundred wells per field. Roads to producing wells are upgraded to all-weather roads as necessary. Pipelines, electrical transmission lines, separators, dehydrators, sump pits, and compressor stations soon follow. Sometimes oil and gas processing facilities are built on or adjacent to the field. Major discoveries usually set off a frenzy of exploration activity in adjacent areas.

Further Seismic Testing

More detailed seismic work may be done to achieve better definition of the petroleum reservoir. Diagonal seismic lines also may be required to tie the previous seismic work to the discovery well. The discovery well also may be used to conduct studies to correct the previous seismic work and provide more accurate subsurface data.

Spacing Requirements

A well spacing pattern must be established before development drilling begins. Information considered in establishment of a spacing pattern includes data from the discovery well on porosity, permeability, pressure, composition, and depth of formations in the reservoir; well production rates and type (predominantly oil or gas); and the economic effect of the proposed spacing on recovery.

Most spacing for production from federal leases is a minimum of 40 acres per well. Larger spacing units often are established for gas production, usually in multiples of 40 acres. Spacing unit size is established to provide for the most efficient and economic recovery of oil and/or gas from a reservoir. All wells must be in the center of a 40-acre legal subdivision with a tolerance of 200 feet in any direction.

Drilling of Development Wells

The procedures used in drilling development wells are about the same as those used for wildcat wells, except that there usually is less subsurface sampling, testing, and evaluation. The rate at which development wells are drilled in a field depends on factors such as whether the field is developed on a lease basis or unitized basis, the probability of profitable production, the availability of drilling equipment, protective drilling requirements, and the degree to which limits of the field are known.

Some fields go through several development phases, the first resulting from the original discovery and others from later discovery. A field may be considered fully developed and produce for several years, and then a well may be drilled to a deeper or shallower pay zone. Discovery of a new pay zone in an existing field is a "pool" discovery (as distinguished from a new field discovery). A pool discovery may lead to the drilling of additional wells, often from the same drilling pad as existing wells.

Surface Requirements

Surface uses required for development may include access roads, well sites, flow lines, storage tank batteries, and facilities to separate oil, gas, and water.

Each section (1 square mile), if developed on an 80-acre well spacing pattern, could have 8 wells, 4 miles of access roads, 4 to 6 miles of flow lines, numerous tank batteries, and facilities to separate gas or water from the oil. In practice, a section is rarely completely developed for the maximum number of wells.

Surface uses in a gas field would be less than in an oil field, because gas wells are usually drilled on larger spacing units. The spacing pattern of 640 acres per well, which is common in gas fields, would require only one well per section and might require only ½ mile of access roads and pipelines.

Separation and storage facilities are not required unless the production is rich in liquids or condensate. The oil may be sold without separation and the purchaser may separate the liquids at a central processing point. A dehydrator and injection equipment usually would be required on the site.

Secondary Recovery

Oil cannot be produced unless the reservoir pressure is great enough to drive the oil into the casing perforations. After years of primary production, the natural pressure declines, and the yield of oil likewise declines. Secondary recovery is initiated to increase reservoir pressures artificially and to increase the oil recovery factor. This usually is done by injecting water (water flooding), gas, or polymerized liquid into the formation.

Flow Lines

Crude oil usually is transferred from the wells to a central tank battery before it is transported from the lease. Natural gas is often sold at the wellhead and transported directly off the lease. If processing is required to remove liquid hydrocarbons or water, the gas may be transferred to a central collection point before sale.

On some leases, the production from several wells is piped to a satellite production station, and then it is piped through a larger line to the storage batteries. Oil and gas are transferred from the wells to central collection points in flow lines. Flow lines can be located on the surface, buried, or elevated.

Separating, Treating, and Storage

If the oil produced contains gas and water, they are separated before the oil is stored in the tank battery. The treating facilities usually are located at a storage tank battery. Low-pressure petroleum that must be pumped from the well is treated in a single separation. High-pressure, flowing petroleum may require several stages of separation, with a pressure reduction accompanying each stage.

If enough casing-head gas is separated in the field to make it economical to process it for marketing, a plant may be built to remove gasoline, butane, and propane. Some of the gas is used to fuel the plant; the rest is sold. Generally, if the volume of casing-head gas produced in a field is insufficient to warrant treatment in a gasoline plant, it is then used as fuel for pump engines in the field and as heating fuel for oil treaters. If the gas exceeds fuel requirements on the lease, it may be flared or vented into the atmosphere.

When water is produced with the hydrocarbons, it is separated before the gas is removed. In primary operations, where natural pressures or gravity cause the petroleum in the reservoir to flow to the well bores, the degree of mixing usually is high enough to require chemical and heat treatment to separate the oil and water. In secondary production, where water injection or other methods are used to force additional petroleum to the well bore, the oil and water often are not highly emulsified. In this case, the oil and water may be separated by gravity in a tall settling tank.

After the oil and water are separated, the oil is piped to storage tanks. Storage tank batteries are usually located on or near the lease. They usually consist of at least two tanks, so that one tank can be filling as the contents of the other are measured, sold, and transported. The number and size of tanks vary with the rate of production on the lease.

Abandonment

When a well is unsuccessful, it is plugged, and the drilling rig and all support equipment are removed from the location. Bulldozers, motor scrapers, motor patrols, and backhoes or draglines can be used to move the dirt back near its original place, and the site and access road are contoured to blend into the adjacent topography. Then topsoil is placed, and the disturbed areas are seeded.

Rehabilitation requirements generally are made a part of the APD. Upon completion of abandonment and rehabilitation operations, the lessee or operator notifies the BLM district that the location is ready for inspection. Final abandonment will not be approved until the surface rehabilitation work required by the drilling permit or abandonment notice has been completed and the required vegetation is established to the satisfaction of the BLM.

REGULATIONS, LAWS, AND SPECIAL PROCEDURES

Unit and Communitization Agreements

Unit and *communitization* agreements may be formed in the interest of conservation and to allow for the orderly development of oil and gas reserves.

A unit agreement provides for the recovery of oil and gas from the lands as a single consolidated entity without regard to separate ownerships. Costs and benefits are allocated as outlined in the agreement. An exploratory unit is used for the discovery and development of the field in an orderly and efficient manner. Paying well determinations are made for each well drilled in an exploratory unit. If the well is nonpaying as defined by the agreement, the production is allocated on a lease basis. If the well is a paying unit well, a participating area is formed and the production is allocated to all ownerships in the participating area on the basis of surface area.

A secondary unit is formed after the field has been defined and enhanced recovery techniques are being utilized. The agreement provides for the allocation of production among all the ownerships.

A communitization agreement is an agreement to combine two or more mineral leases in order to comply with the spacing required to drill a well. The leases within the spacing unit share in the costs and benefits of the well drilled in the spacing unit. Therefore, unit and communitization agreements can lessen the amount of damage to the environment and save dollars by eliminating unnecessary wells, roads, pipelines, and lease equipment.

Natural Gas Policy Act

The Natural Gas Policy Act (NGPA) was enacted by Congress to provide an economic incentive to the industry to locate new gas reserves and produce them so that the nation would have an adequate supply of natural gas at a reasonable price. The act sets a ceiling price for the purchase and sale of natural gas in each of the following categories: new onshore wells, new onshore reservoirs, high cost natural gas, wells deeper than 15,000 feet, and stripper wells. Higher prices were not allowed for old gas wells. Therefore, drilling for natural gas was encouraged.

The BLM's responsibility is to approve or reject applications for the natural gas category determination. Currently, there is an abundance of natural gas, so there is not an incentive to locate new gas reserves. The current market price for natural gas is considerably below the ceiling price in most cases.

Drainage Provisions

Federal oil and gas leases include a clause that the lessee must protect the minerals from drainage. Therefore, if it is believed that a certain percentage of the production of a well on nonfederal land is being drained from federal minerals, the lessee of the federal land will be notified that its lease is being drained and is given the option of paying compensatory royalty (paying for the hydrocarbon being drained) or drilling a protective well. If a company has a choice between paying for something it does not receive and drilling a well, it usually will choose to drill the protective well.

The objective of the drainage program is to prevent the loss of federal oil and gas due to drainage by requiring the drilling of protective wells and, where appropriate, to assess compensatory royalty for such losses.

SOILS, WATER, AND AIR APPENDIX

WATERSHEDS

Critical Watersheds

Intensive management that would be practiced in critical watersheds is described in the following paragraphs.

New oil and gas leasing would continue with use of existing standard stipulations under all alternatives. Regardless of the alternative, special practices required to control erosion and protect water quality will be prescribed case by case through on-site investigations during the application for permit to drill (APD) process. These practices are listed under "Erosion Control Practices" in the next section.

Reclamation plans established according to existing guidelines would be required for existing fields and well sites. The objectives of the reclamation plans would be to reduce the amount of bare ground caused by past oil and gas development, to control surface water runoff, and to dispose properly of produced water. Construction and reclamation techniques and procedures would be monitored to quantify the effects of these plans.

Regardless of which alternative is selected, old unreclaimed disturbance will be inventoried and reclaimed. Reclamation will be prescribed case by case on site and monitored to evaluate the effects of the reclamation used.

Under any of the alternatives, as AMPs are developed in any critical watersheds, watershed concerns and improvements related to livestock grazing will be addressed in the AMPs. Whenever possible, range improvements will be prescribed that will also benefit the watersheds.

As HMPs are developed in critical watersheds, watershed concerns and improvements related to wildlife will be addressed in the HMPs. Improvement of the watersheds will result in improvement of wildlife habitat.

All watershed problems and improvements not addressed in oil and gas reclamation plans, AMPs, or HMPs will be addressed and mitigated through watershed activity plans.

Old coal mining disturbance will be reclaimed in cooperation with the Wyoming Department of Environmental Quality (DEQ). Reclamation will take place through DEQ planning processes.

Roads and trails will be inventoried, monitored, and reclaimed or improved if they are found to contribute significantly to salt and sediment loading in the critical watersheds.

Erosion Control Practices

General practices to control erosion and improve water quality in important watersheds are listed below.

Mulching

Nurse crops

Road surfacing (gravel, scoria, or other surface materials)

Surface water drainage to include drop structures, culvert placement, water bars, gully plugs, contour furrows, and pitting

Development of seed mixture adapted to site for revegetation

Snow fencing to trap snow for additional moisture on site to establish vegetation

Topsoil removal and replacement (site-specific recommendations of depths)

Seedbed preparation, including ripping depth, drill or broadcast seeding, raking, and discing

Central water disposal sites

Produced water and mud pit design, including liners, proper compaction, and location away from perennial and ephemeral drainages

Locating pads the same distance away from major ephemeral drainages as perennial drainages (major ephemeral drainages would be determined on site)

Reducing amount of surface disturbance through field development planning (smaller pad size, fewer roads, joint road, pipeline rights-of-way, and selection of drill sites requiring least surface disturbance-cut and fill and shorter access roads)

Irrigation and/or watering to establish vegetation

Other new or innovative methods

These practices would be prescribed on site for each individual case.

STANDARD OPERATING PROCEDURES

Water quality and air quality standards required by the Wyoming DEQ will also be the standards used in the planning area.

Watershed activity plans will be developed and implemented through coordination, consultation, and cooperation with local and state agencies, other federal agencies, and interest groups.

All water rights on BLM water projects will be filed with the state of Wyoming.

SIGNIFICANT REGULATIONS

Significant regulations concerning soil, water, and air resources are listed in the following sections.

Clean Air Act Amendments

The Clean Air Act Amendments of 1977 provide for the prevention of significant deterioration of air quality. Significant responsibility is placed upon federal land managers for protection and, in certain cases, for enhancement of air quality values and related values, including visibility.

Under the requirements of the Clean Air Act Amendments, federal agencies must abide by and support all provisions of state implementation plans and the state regulations that are derived from them. Thus, the BLM has legislated responsibility to support provisions of Wyoming air quality regulations and to avoid violating these regulations as it conducts such activities as prescribed burning.

Soil Conservation and Domestic Allotment Act

The Soil Conservation and Domestic Allotment Act of 1935 provides for the preservation and improvement of soil fertility, promotion of the economic use and conservation of land, and diminution of exploitation and wasteful and unscientific use of national soil resources.

Watershed Protection and Flood Control Act

Under the Watershed Protection and Flood Control Act of 1954, as amended (P.L. 83-566, 68 Stat. 666, 16 U.S.C. 1001 et seq., August 4, 1954), the federal government is directed to cooperate with states and their political subdivisions, soil and water conservation districts, flood prevention or control districts, and other local public agencies to prevent erosion or floodwater and sediment damage.

Clean Water Act

The Clean Water act of 1977, as amended (P.L. 95-217, 33 U.S.C. 404, December 27, 1977), requires that the BLM participate with state and federal governments in water quality planning and permitting activities. It requires exchanges of data, resource planning, revision of standards, and development of the best management practices for the control of nonpoint source pollution. In many states, the BLM has been appointed the designated management agency responsible for control of nonpoint pollution on public lands.

Executive Order 11752

Executive Order 11752 of December 17, 1973, mandates that federal agencies provide national leadership to protect and enhance the quality of air, water, and land resources through compliance with applicable federal, state, interstate, and local pollution standards. This order cross-references the need to comply with several environmental acts such as the Clean Air Act, the Federal Water Pollution Control Act, the Solid Waste Act, the Noise Control Act, the Insecticide and Pesticide Acts, and the National Environmental Policy Act.

Colorado River Basin Salinity Control Act

The Colorado River Basin Salinity Control Act of 1974 (P.L. 93-320, 88 Stat. 266, 43 U.S.C. 1571 et seq., June 24, 1974) directs the Department of the Interior to undertake research and develop demonstration projects to identify methods to improve the water quality of the Colorado River.

STREAM PRIORITY SUMMARIES

Introduction

This section contains stream priority summaries from the *Wyoming 1986 Water Quality Assessment* (Wyo. DEQ 1986).

Definitions

The abbreviations used in the stream priority summaries are defined in the following sections.

Priorities

Priority 1 indicates high priority water bodies; priority 2 indicates moderate priority water bodies; priority 3 indicates low priority water bodies; and priority 4 indicates water bodies where the solution is being or has been implemented.

Segment Priority Factors

The segment priority factors in each summary are represented by the letters A through G. The meanings of the letters are as follows:

A. A downstream use is affected by the water quality problem. The most affected segment is not necessarily the area where the problem was identified.

B. The identified water quality problem is primarily a local problem. The problem parameter affects the water quality near the origin of the pollutant.

C. The water quality problem affects not only the local residents but also people living in other areas who may use the stream segment or lake.

D. Endangered, threatened, or sensitive species are or could be affected by a particular water quality condition. In some cases this includes species classified as rare by the Wyoming Game and Fish Department. There are three fish species classified as rare in Wyoming that are not common in other parts of the country: the Bonneville cutthroat trout (found in the Bear River Basin), the Colorado River cutthroat trout (in the Lower Green and Little Snake River basins), and the Kendall Warm Springs dace (which inhabits the Kendall Hot Springs near Pinedale).

E. The water quality condition is a major interstate or international issue.

F. Local residents are aware of and concerned about the use impairment, and they might be willing to do something about it.

G. A control program or solution is currently available, and some governmental unit has the capability to solve the problem or to reduce it significantly through an existing program. For that particular problem, the program needs to be applied, not developed.

Beneficial Uses

CWF (cold water fishery). Water is used to support and propagate a cold water game fishery. Determined by the presence of cold water game fish species.

IND (industrial water supply). Water is diverted from streams or lakes by various industries for industrial processing or removing heat.

IRR (agricultural irrigation). Water is used for the irrigation of agricultural crops.

LWW (livestock and wildlife watering). Water is consumed by livestock and wildlife (excluding fish).

PCR (primary contact recreation). The human body may be completely submerged in the water with prolonged and intimate contact. Such activities include swimming, water skiing, and floating.

PWS (public water supply). Water is used for drinking and other domestic or municipal purposes.

SCR (secondary contact recreation). The human body may come in contact with water, but normally not to the point of complete submergence. Such activities include wading, fishing, boating, and hiking.

WWF (warm water fishery). Water is used to support and propagate a warm water game fishery. Determined by the presence of warm water game fish species.

Stream Classes

Class I waters are the highest quality and are referred to as nondegradation waters. Nondegradation means that their quality may not be further impacted from point sources.

Class II waters support game fish populations.

Class III waters support only nongame fish species.

Class IV waters contain no fishery and often do not contain any water (ephemeral or intermittent streams).

Summaries of Planning Area Streams

The following summaries are extracted from the *Wyoming 1986 Water Quality Assessment* (Wyo. DEQ 1986). All the critical watersheds in the planning area are summarized in the report except Second and Third Sand Creeks.

Bates Creek

Bates Creek is in the northeast corner of Carbon County about 45 miles north of Medicine Bow. The DEQ report summarizes it as follows:

Bates Creek, North Platte River Basin. Priority 1. Current status, unchanged.

Segment priority factors: B, C.

Water quality limited based on professional judgment.

Uses impaired: CWF (in Bates Creek and the North Platte River below the confluence with Bates Creek).

Problem parameters/severity of impairment: Sediment/major.

Probable pollution sources and controls: Accelerating gully erosion from grazing lands.

Comments: DEQ would like to help establish a grazing management and sediment control study in this watershed with BLM and University of Wyoming. USGS stations are currently in operation at Freeland and 2.8 miles upstream of the mouth. Discharge and a spectrum of water quality parameters are measured.

Adequate interagency funding sources will have to be identified to begin this study, which would provide DEQ with pilot projects in all four BLM districts.

Sugar Creek

The mouth of Sugar Creek is about 5 miles northeast of Sinclair. The DEQ report summarizes this stream from its mouth to the Sinclair sewage treatment plant, as follows:

Sugar Creek (from its mouth upstream to the town of Sinclair's sewage treatment plant), North Platte River Basin. Priority 4. Current status, improving.

Segment priority factors: B.

Water quality limited based on professional judgment.

Uses impaired: None.

Problem parameters/severity of impairments: TSS/minor.

Probable pollution sources and controls: See below ["Comments."]

Comments: The new Sinclair sewage treatment plant is under construction and will be completed in 1986.

Sage Creek

Sage Creek is about 25 miles south of Rawlins. The DEQ report summarizes it as follows:

Sage Creek, North Platte River Basin. Priority 1. Current status, unchanged.

Segment priority factors: B, C.

Water quality limited based on professional judgment.

Uses impaired: CWF-major degradation to the fishery of the North Platte River results from this drainage. The North Platte River changes from a Class I to a Class II at the confluence of Sage Creek.

Problem parameters/severity of impairments: Sediment/severe.

Probable pollution sources and controls: Accelerated erosion from rangelands. Better grazing systems that protect riparian zones may improve the situation.

Comments: Results of the Muddy Creek research will lead to the development of management techniques that may eventually result in decreased sediment yields from the Sage Creek watershed.

A USGS gaging station is currently located 3.6 miles upstream from the mouth of Sage Creek to measure discharge and a variety of water quality parameters.

Little Snake River

The Little Snake River from Baggs area to the boundary of the Medicine Bow National Forest is summarized in the DEQ report as follows:

Little Snake River (from the Colorado state line upstream to the U.S. Forest Service boundary), Little Snake River Basin. Priority 2. Current status, unchanged.

Segment priority factors: B, G.

Water quality limited based on in-stream data.
Water quality limited based on professional judgment.

Uses impaired: CWF.

Problem parameters/severity of impairments: Low flows/severe; dissolved oxygen/moderate; ammonia/moderate-severe.

Probable pollution sources and controls: Irrigation diversions and seasonal precipitation patterns (low flows); municipal discharges-Baggs (D.O., ammonia); controls-construction grants for Baggs; increased storage in Sierra Madre Mountains for low flows.

Comments: DEQ has investigated the Baggs and Dixon discharges in conjunction with waste load studies. Dixon appears to have no impact on the Little Snake River. Baggs is in the process of being upgraded. An ammonia study is currently underway to determine if additional treatment is needed. The possibility of adjacent wetlands providing the additional treatment is being investigated.

Muddy Creek

Muddy Creek from its source 10 miles southeast of Sulphur Springs to its confluence with the Little Snake River at Baggs is summarized in the DEQ report as follows:

Muddy Creek (from the source to its confluence with the Little Snake River), Little Snake River Basin. Priority 1. Current status, unchanged for decades.

Segment priority factors: B.

Water quality limited based on professional judgment.

Uses impaired: CWF (in Little Snake River).

Problem parameters/severity of impairments: Sediment/moderate

Probable pollution sources and controls: Erosion from rangelands; control measures include improved grazing systems and sediment traps.

Comments: Land use is 99.5 percent grazing. . . .DEQ is cooperating with the Rawlins district office of the BLM and the University of Wyoming, Range Management Division, to establish a riparian grazing-sediment study on upper Muddy Creek. Trash collectors, tire dams, and willow plantings have been established; beaver relocation will follow.

Staff gages and automatic pumping samplers were put in place during 1984 and 1985. These are operated by UW, BLM, and DEQ personnel. Continued, long-term funding will be needed. There is potential for human-enhanced improvement of the stream channel and riparian zone.

Haggerty Creek

Haggerty Creek is near Encampment. The DEQ report summarizes the stream from its mouth to the Ferris-Haggerty mine as follows:

Haggerty Creek (from its mouth to the Ferris-Haggerty Mine), Little Snake River Basin. Priority 1. Current status, unchanged.

Segment priority factors: B, G.

Water quality limited based on in-stream data.

Uses impaired: CWF.

Problem parameters/severity of impairments: Copper/severe.

Problem pollution sources and controls: The operator (Andover Mineral Corporation) has been issued a NPDES permit (#WY-0023523) with copper limits (sufficient to protect aquatic life) and monitoring requirements.

Comments: The mine has recently been sold to Andover Minerals Company of Denver, Colorado. The new owners intend to investigate methods of controlling the copper-laden discharge during 1986. EPA Region VIII has recently conducted a bioassay and benthic study on Haggerty Creek, final results will be available in late 1986.

Should the mine become abandoned, monies from the Abandoned Mine Land program could be used to address the problem. The state is investigating the possibility of piping the discharge from the mine to Hog Park Reservoir, where there is a sufficient volume of dilutant to disperse the copper.

The Wyoming Game and Fish Department intends to eliminate the brook trout population above the mine discharge and reintroduce native Colorado River Cutthroat into the reach as the copper discharge provides a barrier to upstream migration of non-native fish.

STANDARD PROTECTION REQUIREMENTS APPENDIX

The following standard protection requirements are applied by the BLM in Wyoming as stipulations to oil and gas leases as appropriate. They also may be applied to other surface-disturbing activities as appropriate. Specific numbers, dates, or descriptions will be inserted to suit the particular circumstances.

1. Surface Disturbance Stipulations (used on all leases)

Surface disturbance will be prohibited in any of the following areas or conditions. Modifications to this limitation may be approved in writing by the Authorized Officer.

a. Slopes in excess of 25%.

b. Within important scenic areas (Class I and II Visual Resource Management areas).

c. Within 500 feet of surface water and/or riparian areas.

d. Within a quarter mile or visual horizon (whichever is closer) of significant sites along historic trails.

e. Construction with frozen material or during periods when the soil material is saturated, frozen, or when watershed damage is likely to occur.

Guidance

The **surface disturbance stipulation** will be included in all BLM authorizations. The intent of this stipulation is to inform interested parties (potential lessees, permittees, operators) that, when one or more of the five (a through e) environmental conditions exist, surface disturbing activities will be prohibited unless or until the permittee or his designated representative and the surface management agency (SMA) arrive at an acceptable plan for mitigation of anticipated impacts. This negotiation will occur prior to development and become a condition for approval when authorizing the action.

Specific threshold criteria (e.g., 500 feet from water) have been established based upon the best information available. However, geographical areas and time periods of concern must be delineated at the field level (i.e., "surface water and/or riparian areas" may include both intermittent and ephemeral water sources or may be limited to perennial surface water). "Significant sites along historic trails," refer to those trail segments and sites which have been enrolled in or are eligible for enrollment in the National Register of Historic Places. These decisions, where possible, should be described in the land use planning documents.

Modification or waiver of this stipulation must allow for additional requirements to be applied on a site specific basis, if necessary to mitigate the impacts of concern. Waiver of this stipulation must be based upon demonstration, through environmental analysis, plans of development, plans of operation, Application for Permit to Drill (APD) processing, etc., that the adverse effects will be mitigated or avoided.

2. Wildlife Stipulation

a. To protect important big game ungulate winter habitat, drilling and other surface disturbing activity will not be allowed during the period from November 15 to April 30 within certain areas encompassed by this lease. The same criteria applies to elk calving areas from the period of May 1 to June 30. This limitation does not apply to maintenance and operation of producing wells. Modifications of this limitation in any year may be approved in writing by the Authorized Officer.

b. To protect important raptor and/or sage and sharp-tailed grouse nesting habitat, drilling and other surface disturbing activity will not be allowed during the period from February 1 to July 31 within certain areas encompassed by this lease. This limitation does not apply to maintenance and operation of producing wells. Modifications of this limitation in any year may be approved in writing by the Authorized Officer.

c. No surface occupancy will be allowed on that portion of the lease within the following defined area for the purpose of protecting wildlife habitat (e.g., sage/sharp-tailed grouse strutting grounds): (legal descriptions). Modifications of this limitation in any year may be approved in writing by the Authorized Officer.

Guidance

The **wildlife stipulation** is intended to provide two basic types of protection, seasonal restriction (a and b) and no surface occupancy (c). A legal description will ultimately be required and should be measurable and legally definable. There are no minimum subdivision requirements at this time. The area delineated can and should be refined as necessary based upon current biological data at the time the APD or Sundry Notice is processed. It should eventually become a condition for approval in these permits.

The seasonal restriction section of the stipulation identifies three groups of species and delineates two similar timeframe restrictions. These two restrictions are big game ungulate and raptors/grouse. The big game ungulates including elk, moose, deer, antelope, and big horn sheep all require protection of crucial winter range between November 15 and April 30. Sage and sharp-tailed grouse and raptors such as eagles, accipiters, falcons, buteos, osprey, and burrowing owls, also require nesting protection during periods between February 1 and July 31.

The no surface occupancy section of the stipulation is intended for protection of unique wildlife and wildlife habitat values (e.g., sage grouse strutting grounds, known threatened and endangered species habitat, etc.) which cannot be protected using seasonal restrictions.

3. Special Resource Protection Stipulation

In order to protect (resource value), the District Manager reserves the right to prohibit surface disturbance (i.e., within a specific distance of the resource value or between date-to-date) in (legal subdivision). This limitation does not apply to operation and maintenance of producing wells. Modifications to this limitation may be approved in writing by the Authorized Officer.

Resource Category:

a. Recreation areas.

b. Special historic features.

c. Special management areas.

d. Sections of major rivers.

e. Prior existing rights-of-way.

f. Occupied dwellings.

Guidance

The **special resource protection stipulation** is intended for use only in the few very specialized, site-specific situations where one of the other three general stipulations will not adequately address the concern. The resource value, location, and specific restriction must be clearly identified. A detailed plan addressing mitigation and special restrictions on development will be required prior to development and will become a condition for approval in the Application for Permit to Drill or Sundry Notice.

4. No Surface Occupancy Stipulation

No surface occupancy will be allowed on the following described lands (legal subdivision/area) because of (resource value). See examples.

Resource Category:

a. Recreation and interpretive areas (campgrounds, historic trails, national monuments).

b. Major reservoirs/dams.

c. Special management areas (e.g., Area of Critical Environmental Concern, wild and scenic rivers).

Guidance

The **no surface occupancy stipulation (NSO)** is intended for use only when other stipulations are determined insufficient to adequately protect the public interest and/or as an alternative to "no leasing." The legal subdivision and resource value of concern must be identified in the stipulation and be tied to a land use planning document. There will be no exceptions to this stipulation granted without amendment of the appropriate land use plan.

When considering the no lease option, a rigorous test must be met and fully documented in the record. This test must be based on the stringent standards of the Interior Board of Land Appeals. Since rejection of a lease offer is more severe than the most restrictive stipulation, the record must show that consideration was given to leasing subject to reasonable stipulations including a NSO stipulation. The record must also show that stipulations were determined to be insufficient to adequately protect the public interest. A no-lease decision should not be made solely because it appears that directional drilling would be unfeasible, especially where a NSO lease may be acceptable to a potential lessee. In such cases the opportunity to accept or refuse a NSO lease should be left to the potential lessee.

Exception(s) by the District Manager to the NSO stipulation will be subject to the same test used to initially justify the imposition of this stipulation. If the NSO stipulation is justified but upon development less restrictive stipulations would adequately protect the public interest, then an exception to the NSO stipulation could be granted. The record must show that because conditions and uses have changed, less restrictive stipulations will protect the public interest.

WILDLIFE APPENDIX

INTRODUCTION

This appendix contains detailed descriptions of the typical effects on wildlife and fisheries that were summarized briefly in chapter 4. Also included are tables that identify wildlife management actions by HMP area and a table that indicates areas of oil and gas potential in wildlife areas.

TYPICAL EFFECTS ON WILDLIFE AND FISHERIES

Fire Management

The potential to improve fish and wildlife habitat through the use of fire has not been fully explored in the planning area. Full suppression of any wildfires has been the general policy in the past. Prescribed fire has been used very little, and in most cases the objective of the prescription was to increase livestock forage, which may or may not benefit wildlife.

Fire can have beneficial or negative effects on wildlife habitat, depending on several specific factors. Decadent concentrations of shrubs such as serviceberry, chokecherry, mountain mahogany, and rabbitbrush can be burned under the right prescription and allowed to resprout, producing higher nutrient values in the shrubs, improving palatability, and increasing plant vigor. Much of the decadent woody stems can be burned, with the potential of increasing new leaf biomass. Decadent stands of aspen and willow usually respond well to fire, producing new suckers the following year. However, heavy grazing often negates this suckering response. Through improvement of these beaver foods and structural materials, fisheries could be improved.

Whether prescribed fire will improve wildlife habitat depends on the objective of the burn and the prescription. Too hot a fire may kill plants and seeds, resulting in poor reproduction, poor sprouting, and sterile soils. A fire that doesn't burn hot enough may not reduce dead wood and litter or may burn the target area only partially. If the objective of a prescribed fire is to increase grasses and forbs and decrease sagebrush, the burn may be beneficial to wildlife if the area is a bighorn sheep winter range, but the same practice would be detrimental to wildlife if the area was an antelope winter range. How the area is currently being used by wildlife and what the postburn objective for vegetative composition is will determine whether the burn will have adverse or beneficial effects on wildlife.

Effects on wildlife from wildfires also can be beneficial or adverse. As with prescribed fire, decadent shrub stands should be allowed to burn, while highly productive habitats should be saved. Occasionally wildfires create a vegetative mosaic by burning in an irregular pattern at various heat intensities. This mosaic creates vegetative diversity, which results in an increase in wildlife species diversity.

As described in the discussion of fire management, there are three alternatives for fire management: (a)full suppression with no restrictions, (b) full suppression with management options (for example, heavy equipment restrictions), and (c) limited suppression.

Full suppression does not allow a wildfire to continue to burn, even when wildlife habitat is being improved.

In the past, extensive resource damage has occurred from attempts at full suppression of wildfire. Bulldozers and other heavy equipment have greatly disturbed soils, causing erosion, increasing siltation in streams, and reducing reclamation potential. When public safety and protection of private property are not an issue, many wildfires should be allowed to burn.

Under planned conditions, natural fires could improve wildlife habitat if allowed to burn. Conditions and restrictions on fire management techniques and equipment could be planned to prevent unnecessary damage to fish and wildlife habitat.

Effects on fish and wildlife from full suppression of wildfires could be positive or negative. Suppression in highly productive, high-priority standard habitat sites would be beneficial to fish and wildlife resources. Suppression in decadent shrub and timber stands would have negative effects on many fish and wildlife resources. In large stands of timber where wildfire could burn large expanses of important big game cover, full suppression usually would be beneficial.

If there were no restrictions on equipment on steep slopes and fragile soils, fish and wildlife habitat could be damaged significantly. Limitations or restrictions on the use of heavy equipment would protect fragile soils, resulting in fish and wildlife benefits. Limited suppression and prescribed fires could improve grouse habitat and forage on elk, mule deer, and bighorn sheep seasonal ranges.

Management Actions for Forestry

Effects on forest wildlife species from forest management can be either beneficial or adverse. A forest ecosystem that is managed to provide a variety of vegetation structural stages in proper distribution, size, and diversity would have the ability to furnish habitat for the highest level of species richness. Many species such as elk and mule deer require this type of balance, which provides a mosaic of successional stages. Early successional stages are needed for feeding areas, while mid to late successional stages are needed for protective cover from predators and shelter from the elements.

Forest management practices that maintain the proper forage cover balance or ratio would be beneficial to these species. Management that does not maintain the proper balance would tend to create extremes of early or late successional stages. This would affect some species favorably and others adversely, depending on their needs. For example, clearcut harvesting of small areas would create feeding areas for deer and elk and nesting habitat for early successional or edge-nesting birds. However, excessively large and/or closely spaced clearcuts would reduce cover and edge availability, adversely affecting deer, elk, and edge-nesting birds. On the other hand, species that are more dependent or totally dependent on early successional stages would benefit from extensive clearcutting.

In the opposite extreme, forest management that would favor extensive old growth development also would adversely affect species such as deer and elk because while cover would be abundant, feeding areas would be inadequate. Species that depend on the vegetative diversity associated with edges also would be adversely affected. In contrast, species such as goshawks and some cavity nesters, which are more dependent upon later successional stages, would be benefited.

Riparian zones generally exhibit high vegetative and structural diversity and thus provide valuable feeding, nesting, and cover habitat. This results in greater diversity of wildlife species. Riparian zones also serve as big game travel corridors and provide shade and bank stabilization for fisheries. Management actions that avoid riparian areas or include practices to improve them afford significant long-term benefits to a wide variety of wildlife and fish species. Management actions that degrade riparian areas would have long-term detrimental impacts on a wide variety of wildlife species and fisheries. Clearcut harvesting and riparian degradation could have long-term adverse impacts not only on site, but off site through increased siltation of trout streams.

Roads constructed for forestry activities generally have been shown to have adverse impacts on big game and trout streams. Erosion associated with logging roads normally increases the sediment load in trout streams, thus decreasing water quality and the streams' capability to produce trout. Many studies have indicated that logging roads have an adverse effect on elk and to some extent on other big game. These roads tend to increase human activity, which causes additional stress on the animals and results in the establishment of avoidance zones. (The impacts of stress are discussed in more detail in the section on typical impacts on wildlife from oil and gas, below.)

The significance of impacts on big game from logging roads and the degree of adversity depends on many variables that affect stress and the establishment of avoidance zones. Some of these variables are road location, road densities, frequency of use, available screening, topography, and sensitivity of the herd. With careful planning and the closing of unneeded roads after operations end, adverse impacts often can be reduced in significance and held to a short term.

Management Actions for Lands

Effects on wildlife from acquisition and disposal actions would be analyzed case by case when specific actions were proposed. It is unlikely that the overall effects would be significant; however, there is a possibility of localized adverse or beneficial effects. For example, a small block of public land might be part of a crucial winter range and highly important to a particular population of wildlife. Under public ownership, the area could be protected from significant impacts of surface disturbance. Under private ownership, such protection might not occur, resulting in an adverse impact. On the other hand, the BLM could acquire part of a crucial winter range and offer protection that was not previously available. This would be the case for all alternatives.

Most effects on wildlife from transportation and utility systems would be associated and integrated with impacts from oil and gas exploration and development (such as roads and pipelines). Typical impacts from transportation and utility systems would be the same as those addressed for the oil and gas program.

Management Actions for Livestock Grazing

Livestock grazing management could have either beneficial or adverse effects on wildlife and fisheries. Most livestock grazing practices and associated vegetative cultural practices are neither inherently good nor bad but generate acceptable or unacceptable results based on their application within a given environment. As an example, summer-long cattle use may be proper on some allotments and detrimental on others, depending on stocking rates, distributions, vegetative condition, and vegetative community composition and diversity. The impacts on the wildlife communities often depend on the application of the practice in a given situation rather than the practice itself (Autenreith 1979).

Grazing management research conducted by both range and wildlife managers has provided a foundation for analyzing effects on both vegetation and wildlife communities. The following is a summary of some pertinent research to aid in understanding the impacts described in this section.

In the planning area, and throughout the West, many riparian habitats have been greatly affected by livestock grazing. Considering the high animal species diversity and high management priority associated with these habitat types, such impacts are significant and are key issues to be resolved. Crouch (1982), Knopf and Cannon (1982), and Mosconi and Hutto (1982) all documented the detrimental effects of intensive livestock grazing on riparian communities. Usually these impacts involve excessive use of herbaceous and shrub species, soil compaction, and trampling. The result is often a loss of woody cover species (aspen, willow, cottonwood), which are important for reproducing and feeding for many wildlife species.

Negative impacts can be minimized or often eliminated when livestock utilization rates, seasons of use, and amount of rest are keyed to the riparian zones within an allotment (May and Davis, 1982). Kind of livestock also can have either beneficial or detrimental effects on riparian vegetation. Platts (1982) demonstrated that properly herded sheep could graze a watershed without exerting direct, significant influences on riparian habitat.

Grazing impacts on upland habitat types involve direct and indirect interspecific competition between livestock and big game animals for forage, water, and/or space. Species with similar forage preferences have greater potential for adverse competition when forage becomes limited. Within the planning area, heavy-use allotments containing combinations such as cattle and elk, cattle and bighorn sheep, sheep and pronghorn, feral horses and elk, or sheep and mule deer may require intensive monitoring because of high dietary overlaps and the potential for overuse and competitive exclusion.

Social interaction between livestock and big game species has been documented for elk and cattle in the Baggs herd unit (Compton 1975) and other areas of the West (Mackie 1970; Knowles and Campbell 1982), for pronghorn and sheep in the Red Desert (Taylor 1975), and for deer and cattle (Dusek 1975; Firebaugh 1969; and Knowles 1975) in other Western states. Such relationships should be considered when change of kind of livestock is being analyzed on crucial winter ranges.

Cultural practices that alter vegetative structure and composition can be either beneficial or detrimental, depending on project design. Diverse mosaics of treated and untreated areas are preferred over large-block conversions of vegetative types. Large vegetative conversions could potentially eliminate the habitat of 16 species in the sagebrush community; potentially reduce winter forage and cover for elk, mule deer and pronghorn; and reduce the cover and forage for sage grouse, Columbian sharp-tailed grouse, and blue grouse. However, the mosaic patterns of vegetative type conversions may often improve habitat for many wildlife species, including big game, by creating diverse vegetation communities.

Range improvement structures such as fences, reservoirs, and windmills may be detrimental or beneficial, depending on design and application. Woven wire fences caused significant pronghorn mortality in the Red Desert (Riddle and Oakley 1972). However, properly designed fences with or without let-down panels are often important tools in habitat management and improvement when big game requirements are integrated into project design.

Water retention reservoirs can improve the habitat of many wildlife species, especially waterfowl and shorebirds in the planning area. However, heavy grazing around these ponds removes shoreline cover and reduces the quality of nesting (Kirsch 1969) and brood rearing habitat (Smith 1953). Proper grazing systems and/or protective structures such as fences or islands can alleviate these problems and create improved habitat. Big game animals may be adversely affected by such structures if they are constructed where there is seasonal and interspecific competition for forage.

Windmills and troughs may provide valuable watering places for many species if designed with overflow pits for wildlife and left available throughout the summer season. However, many small animals have been found drowned in troughs without escape ladders. Turning off available water during the dry summer months may be very harmful for nonmobile species.

Surface disturbance caused by energy and mineral exploration and development can result in a reduced availability of wildlife habitat. The loss of this habitat reduces the food, cover, and space available to wildlife and livestock, thereby increasing the interspecific competition within areas of intense exploration and development.

Management Actions for Minerals

Leasable Minerals-Coal

Types of actions in coal management that would affect wildlife are (a) primary-those directly resulting from mining activities, and (b) secondary-those resulting from other human activities. Primary impacts that affect wildlife are caused by railroad construction, road building, mine facility construction, mining, and transportation of coal by truck haul or rail. Secondary impacts would result from increased human population, construction of housing and infrastructure, additional vehicle traffic, and conversion of natural, rural lands to other uses.

Wildlife would be adversely affected by these activities through the loss of living space, habitat, and food source and through direct death or additional stress from disturbance or pollution, which leads to death or lowers reproductive success. Aquatic systems would be affected most by pollution from sewage effluent.

Any action that removes or degrades water sources or native vegetation, or that alters natural topography, modifies an area's ability to support animal populations. In most cases, the changes due to industrial and urban development reduce carrying capacity for wildlife. Some animal species are eliminated from the developed area, while others continue to exist at lower levels.

Habitat would be completely lost on mined areas, railroads, roads, and housing areas. Vegetation removal would make these areas incapable of supporting most animals. Some habitat losses would be short term, such as mined areas and facility sites that would be reclaimed. Where roads, railroads, housing developments, and shopping centers were not reclaimed, losses would be long term.

In addition to habitats that are destroyed, some areas would become unusable by animals that are intolerant of human activity. Great variation in tolerance levels exists between species and among individuals of a species. Particularly sensitive are birds of prey during nesting season and big game animals under winter stress.

Quantification and analysis of this aspect of habitat loss is difficult because of species variations and the lack of data regarding the size of the area that would be unusable. Distances from human activity ranging from ¼ mile to more than 1 mile have been reported as unusable by raptors and big game (USDI, BLM 1979b; Steenhof 1978; USDI, BLM 1974; University of Idaho 1976). In areas adjacent to intense human activity, use by these species would be reduced nearly 100%. Farther away, use would increase until predisturbance levels were reached at a distance of approximately 1 mile (USDI, BLM 1979b, 1980a). Many of the impacts discussed in the oil and gas section also would result from coal mining.

Leasable Minerals-Oil and Gas

Background

The oil and gas industry, which is primarily a rural land user, has been operating in the planning area for approximately 74 years. Activities involving exploration for and production and transportation of oil and gas resources continue to be widespread in the planning area. Over time the industry has brought in large numbers of people and new technology. These changes have changed and expanded the realm of human and industrial activity occurring on these lands. As a result, physical and ecological changes have occurred that have significantly affected plant and animal communities in many areas.

Habitat Losses

Fish and wildlife populations are dependent on the continuing presence and usability of crucial habitats in adequate quantity and quality for long-term maintenance. The most serious habitat losses caused by the oil and gas industry have been long-term or permanent physical removal of habitat, long-term changes in habitat structure (that is, vegetative composition), and creation of behavioral avoidance zones (areas of reduced habitat usability). Occasionally wildlife habitat has been created or improved through oil and gas exploration activities. Water sources and riparian areas have been created where drilling has created artesian wells that have been left flowing. For fish and other aquatic species, degradation of water quality through sedimentation, spills, and thermal pollution would create a substantial loss in habitat.

If these losses occurred in crucial habitats or in habitats that provide buffer zones for crucial habitats, the populations of affected species would be reduced significantly in the long term. In the process, the condition of adjacent undisturbed crucial habitat could deteriorate as a result of excessive use by displaced animals. This could cause reduced overall carrying capacity, further depressing wildlife populations.

Oil and gas industry activities such as geophysical exploration, exploratory drilling, road building and upgrading, field development (including all types of facility and equipment construction), pipeline construction, maintenance operations, and abandonment operations could cause habitat losses. If current or increased levels of industrial activity continued for another 10 to 25 years in high-value habitat sites or important seasonal ranges, there would be significant negative impacts on fish and wildlife populations.

A survey conducted by BLM personnel in 1980 indicated that the disturbed acreage associated with producing wells in fields in the Divide and Medicine Bow resource areas averaged 40 acres per producing gas well and 10 acres per producing oil well. This included well-site locations and facilities, local access roads and pipelines, field equipment buildings, and other facilities primarily associated with a producing field or a group of wells.

Calculations based on these average disturbance figures indicate that 40,000 acres of surface has been disturbed by well development over the past 72 years. This figure does not include acreage disturbed by the drilling of and access to more than twice as many unsuccessful wells, by geophysical exploration, or by major transport lines, nor does it include the acreage disturbed and/or occupied by communities and local infrastructures established or expanded primarily because of oil and gas industry development. At least as much acreage has been disturbed or occupied as a result of these associated activities as from the actual development of producing wells. It is estimated that the overall total of physically disturbed surface in the planning area through 1985 is about 93,000 acres.

To determine the impact of oil and gas activities on vegetation production, one must consider the acreage that has been reclaimed to predisturbance levels of vegetative density and composition. Some areas have been rehabilitated to provide forage production as good as or better than what existed before disturbance. In other areas, rehabilitation efforts have been unsuccessful or have established vegetation types of little value for the primary species involved. Limited rainfall, severe weather conditions, and poor soils make reclamation difficult; these environmental conditions would increase the length of time required to reestablish native vegetation to predisturbance composition and density.

In addition to the physical habitat losses resulting from oil and gas activity, losses in terms of habitat usability or behavioral avoidance zones also must be considered. The extent and type of human activities are the most important factors in determining these zones. Species involved, type of habitat, topography, and time of year also greatly influence the extent of these zones. Within these areas, 50 to 100% of the habitat value is expected to be lost (USDI, FWS 1983). With the use of the information developed by Thomas (USDI, FWS 1983), a conservative estimate can be made that twice as much additional habitat is lost through creation of behavioral avoidance zones as is lost physically. This would total 279,000 acres of lost habitat from physical disturbance and behavioral avoidance over the past 72 years.

On the basis of available information and the assumption that as much as one-third of the lost habitat has been restored, approximately 186,000 acres no longer provide habitat capable of supporting fish and wildlife populations at predevelopment levels. If discovery and development of producing fields are correlated to habitat loss, 80% of the habitat loss has occurred in the past 43 years and 90% in the past 54 years.

The average annual growth rate in number of wells drilled in the past 72 years is 0.725% per year. If this rate continued in the planning area, an additional total of 109,144 acres of physical habitat loss and avoidance zones would result over the next 25 years. This means that 4,366 acres per year would be lost, or 43,660 acres in the next ten years.

The planning area contains significant numbers of KGS areas and considerable high potential oil and gas deposits, so important habitat losses may occur over the next few years. Historically, 73% of the wells have been successful in KGS oil and gas areas, 63% in high-potential areas, 36% in moderate-potential areas, and 3% in low-potential areas. Data for disturbed acreage associated with successful wells indicate that 95% of the disturbed acreage in the planning area has been in KGS and high-potential oil and gas areas.

At one time, many of the current high-potential oil and gas areas were considered low or moderate potential until discoveries were made. An area's being considered low or moderate potential does not preclude the possibility of extensive exploration and development in an area that would result in major habitat alterations and displacement of wildlife. Habitat losses would have the greatest effect on big game animals, sage grouse, and raptors. In some management areas, impacts on fish and other aquatic species could be consequential. In addition, some alternatives would have serious effects on a wide variety of wildlife species in some management areas if significant acreages of high-priority standard habitat sites were lost in high value, limited occurrence habitat types.

Since precise predictions cannot be made about where future oil and gas activities will occur, precise predictions cannot be formulated as to the extent a particular big game herd, habitat site, or sage grouse population would be affected by habitat losses. Nevertheless, some reasonable estimates can be arrived at with the use of projected acreages of habitat losses in high and moderate potential oil and gas areas. This information can be compared with the location and acreages of important habitats for affected wildlife species (see the wildlife section of chapter 3 and map 26, "Oil and Gas Potential").

Approximately 24% of the total acreage in the planning area is in KGS areas and high-potential oil and gas areas, 31% is in moderate-potential areas, and the remaining 45% has low or no potential. Table WL-AP-1 shows the percentage of each HMP area that is in KGS areas, in areas of high potential for oil and gas development, and in moderate-potential areas. It also shows the approximate percentage of the total wells drilled through 1985 in each management area. The information in this table indicates, by management unit, where much of the industry activity has been in the past and where it is most likely to occur in the future.

TABLE WL-AP-1

WELLS DRILLED AND OIL AND GAS POTENTIAL IN HABITAT MANAGEMENT PLAN AREAS

HMP Area	Percentage of Total Wells Drilled Through 1985	Percentage of HMP Area in KGS	Percentage of HMP Area in High Potential	Percentage of HMP Area in Moderate Potential	Percentage of Total New Wells Projected to be Drilled Through 2010
Baggs	9	30	20	45	10-15
Ferris/Seminoe	17	8	20	35	20
Shirley Mountain	5	1	3	45	3
Sage Creek Basin	6	3	10	87	3-5
Encampment Bighorn Sheep	0	0	0	0	0
Red Desert	10	50	25	25	15-25
South Desert	9	85	15	0	15-25
Saratoga Valley	16	2	5	45	5-10
Laramie Peak	2	0	0	25	2
Jelm Mountain	11	3	5	60	5-7
Other	15	2	30	40	20-25

Table 31 in chapter 4 shows the acreage of some of the most important wildlife habitats in each management unit overlapped by KGS, high potential, or moderate potential oil and gas areas, indicating (on the basis of projections of current industry statistics) the terrestrial wildlife species or habitat that could be affected, by management unit.

Stress, Disturbance, and Displacement

Background. In addition to the impacts from habitat loss, wildlife populations may be seriously affected by oil and gas industry activities, which subject animals to excessive stress, disturbance, or displacement. Such activities are not limited to the oil and gas industry-a wide variety of human activities involved in industrial, agricultural, and recreational pursuits can have similar effects on wild animals.

The oil and gas industry is a major contributor to stress and displacement because activities of that industry are widespread throughout the planning area and because they occur primarily in rural areas that are often prime wildlife habitats. In addition, oil and gas operations often are intermittent, with changing phases, making it more difficult for wild animals to adapt to the intrusions. The operations usually involve the use of explosives and large, noisy mobile equipment such as drilling rigs, earth-moving equipment, trucks, ditchers, helicopters, snow removal equipment, or over-snow vehicles. Numerous transport vehicles and workers commonly are involved. The major industry operations causing these types of impacts are geophysical exploration, wildcat drilling, access road development into remote sites, and transport pipeline construction.

Impacts on wildlife become more serious when they occur during certain critical periods of the animal's normal life cycle. Species in the Divide and Medicine Bow resource areas most subject to impacts during critical periods are the big game species, sage grouse, and various raptors. The most critical periods for these species are winter and parturition seasons for big game and the breeding-nesting periods for sage grouse and raptors (including fledging for raptors).

Big Game. One major objective of modern wildlife management is to sustain big game populations over the winter season near planned objective levels and maintain conditions that will provide for high levels of reproduction and survival of healthy offspring. This objective is similar to that of a typical livestock operation, but it is much more difficult to accomplish with wild animals, which to a large extent must be left to cope with the rigors of their habitats. To accomplish these objectives, wildlife managers attempt to maintain habitats, reduce conflicts with other wild and domestic animals, reduce mortality of base populations, perpetuate good annual reproduction and survival of young, and provide for and control the annual harvest of surplus animals. These efforts are made to ensure that there is a long-term sustained yield and some degree of stability in the production of esthetic, consumptive, scientific, and economic wildlife resource values.

Winter is the most critical period for big game animals in this region. Animals enduring cold temperatures, deep snow, and limited forage of questionable nutritional quality are under extreme environmental stress, which contributes to a negative energy balance. Mortality, which is normal in winter, will fluctuate significantly from year to year, depending on the severity of the winter. Some animals die; some that survive in poor condition give birth to underdeveloped young with low survival potential. Some abort or resorb fetuses. A base population of females carrying young will survive, but often by late winter and early spring the number surviving and their potential for successful birth of healthy young animals is in a delicate balance.

The more severe and stressful the winter, the greater the mortality and the potential for reduced reproductive success among big game herds on winter ranges. This occurs naturally, without the imposition of additional human-caused stress. It is reasonable to assume that during these periods of extreme population-limiting stress, any additional stress can compound the stress factors, contributing to mortality and reduced reproductive success. This negatively affects big game population levels.

Research on the effects of oil and gas activity on big game or any other wildlife is limited. As reported in a publication by Larry Seeman Associates, Inc., and the University of Wyoming Zoology Department in 1984, most studies that have been conducted lacked adequate controls and have been short-term baseline inventories. Studies documented displacement of big game populations but precluded accurate interpretation of the effects on complex population dynamics.

Hunted big game herds apparently respond more strongly to human disturbances than unhunted herds. All segments of all big game herds in the planning area are subject to sport hunting except moose and bighorn sheep ewes and lambs. There apparently is no research available that provides adequate quantitative documentation of the effects of disturbance, displacement, and stress caused by oil and gas activities on big game population levels.

At this time, accurate quantification of the effects of and gas activity on big game is impossible. However, most adverse impacts from disturbance can be prevented or minimized through the use of seasonal stipulations.

The effects of oil and gas activities on elk calving and bighorn sheep lambing could be significant for some herds in the planning area. For most big game herds in the area, parturition is dispersed enough that the effects of oil and gas activities would not be expected to be significant. In herd units where concentrated parturition areas are documented, the disturbance and displacement of female elk or bighorn ewes with young could significantly reduce survival of the young.

Female big game animals with young are more reactive than other groups. The potential for mortality of young animals is high because of their vulnerability to predation, accidents, and disease. The ability of young animals to travel is extremely restricted the first few days after birth. In addition, females displaced from preferred habitats just before parturition may give birth in unfavorable areas, reducing the chances for the young to survive.

Sage Grouse. A variety of oil and gas operations during the breeding and nesting period can have negative effects on the success of breeding activity in sage grouse leks and the success of nesting and hatching throughout associated nesting habitat. Disturbances that disrupt the courtship breeding rituals on sage grouse leks may disperse grouse out of historical areas, scatter mature hens and breeding males, and cause small groups to attempt to establish grounds in less desirable areas unfamiliar to the local populations. This may result in fewer successful nesting attempts and short-term population reduction. Prolonged, repeated, or exceptionally disturbing activities such as blasting in prime nesting areas can cause abandonment of significant numbers of nests and reductions in local populations.

Long-term habitat losses from oil and gas development in nesting areas can be more serious for sage grouse populations than short-term disturbing activities; therefore, impacts on sage grouse from geophysical exploration could be especially detrimental in some parts of the planning area where seismograph projects are carried on year after year. However, oil and gas operations that cause habitat losses are controlled only within the lek itself. The use of seasonal stipulations to reduce disturbance of the breeding-nesting processes in intact habitats may help to minimize losses in annual reproduction, offsetting some habitat-related losses.

Raptors. Disturbance of raptors by humans is particularly detrimental during the breeding-nesting season (Olendorff, Motromi, and Call 1980). Species in the planning area most likely to be affected by oil and gas activities are golden eagle, prairie falcon, ferruginous hawk, Swainson's hawk, red-tailed hawk, Cooper's hawk, and burrowing owl, which all breed at slightly different times. These raptors are known to nest in high-potential oil and gas areas and in areas where recent geophysical activities have been heavy.

Disturbance of raptors during nesting activity can lead to nest abandonment or reduced survival of young when parents are displaced from the nest for much of the time. Eggs often are flipped out of the nest when incubating birds are disturbed and leave the nest rapidly. This has been noted especially with prairie falcons. Disturbance of young raptors approaching the fledging stage can cause them to leave the nest before they can fly, and this results in losses from predation and injury. Local raptor populations can be depressed when disturbing activities take place during the breeding-nesting season in areas of preferred raptor nesting habitat (see map 57 in the "Wildlife" section of chapter 3, which shows raptor concentration areas).

Locatable Minerals

Prospecting, claim staking, assessment work, exploration, development, and mining for locatable minerals have been carried out in the planning area for more than 100 years. Since gold was discovered on South Pass in the 1860s, mining activities have been cyclic between periods of intense activity and periods of recession (like the recession that has been seen in the uranium industry at Red Desert and Shirley Basin since the 1950s). The mining industry has had, and still has, tremendous impacts on social and economic conditions throughout the region. Although effects are not well documented, mining industry activities undoubtedly have had significant effects on fish and wildlife populations.

Mining activities have been less widespread across the planning area than oil and gas activities, but they have been more concentrated and surface-dominating in some local areas. Like the oil and gas industry, the mining industry has brought in large numbers of people and new technology, and human and industrial activities on rural lands have changed and expanded. Physical and ecological changes resulting from these activities significantly affect plant and animal communities.

Many of the mining industry's methods of exploration and development are the same as those of the oil and gas industry, and these methods have much the same effect on fish and wildlife resources. Minimal levels of mining activity in high-value habitats can have significant negative effects on fish and wildlife through habitat losses, stress, disturbance, and displacement.

Mining activities under the 1872 Mining Law are not subject to many of the surface disturbance stipulations used for other activities. Seasonal restrictions or "no surface occupancy" provisions cannot be used to protect wintering big game concentrations or streams and riparian habitat from mining activities. Placer mining and dredging, which can cause destruction or long-term degradation of trout streams and riparian habitat, are legal. Unregulated uranium exploration and drilling programs can be carried out through the winter in crucial winter range for elk or bighorn sheep. Open-pit uranium mines can be developed on hundreds or even thousands of acres in concentrated big game winter ranges with little regulation other than required rehabilitation at some future date.

The use of a mineral withdrawal is the only way, in some instances, to ensure that very high-value wildlife resources are protected. The BLM's surface management regulation (43 CFR 3809) provides some protection against habitat losses. When a plan of operations is required, impacts can be determined before they occur, which may facilitate some mitigation, and some kind of eventual rehabilitation can be ensured. If threatened or endangered species are involved, a greater degree of protection may be possible.

Uranium industry activities have affected fish and wildlife habitats more than activities related to any other locatable mineral. Uranium mining has had impacts in the Poison Basin, the Shirley Basin, and the Red Desert, and significant uranium reserves remain. Some habitat has been damaged or lost as a result of activities involving known deposits of iron, limestone, copper, silver, gold, rare earths, bentonite, and a variety of other minerals. It is assumed that there is some probability that all these minerals, especially uranium, will be explored for, developed, or mined in the future, and fish and wildlife resources will be affected. However, the data base for mineral resources generally is not adequate for large-scale analysis of impacts on wildlife habitat. Impacts from known mineral deposits are discussed in chapter 4 by alternative.

We cannot accurately predict when, where, how much, or what kind of mineral exploitation will take place in any given part of the planning area. Uranium and other known minerals will be exploited to some degree in all HMP areas except Sage Creek Basin. Chapter 4 contains specific analyses of the effects of locatable mineral exploitation on fish and wildlife under each alternative.

Management Actions for Recreation (ORV Use)

The obvious impact on fish and wildlife from the creation of new roads and trails is the direct loss of wildlife habitat. A more subtle impact is the increased human activity caused by easier access to an area. Many wildlife species avoid humans to the extent that some highly productive habitats are not used. This avoidance behavior has been documented in elk, raptors, bighorn sheep, bears, bobcats, and many other wildlife species.

ORV management in the planning area is complicated by oil and gas exploration and development. New pipelines and seismic lines that are being rehabilitated are often used as new "roads" by the public. Once such use begins, any reseeded grasses may be destroyed and a reclaimed right-of-way is soon transformed into a two-track road.

Limitation of ORV use through designations such as "closed" or "limited to designated (or existing) roads and trails" (seasonally or yearlong) can benefit wildlife resources. Where the designations are applied, physiological disturbance during critical periods in the life cycles of a variety of wildlife species (such as big game, raptors, or upland game birds) can be significantly reduced. Furthermore, physical habitat losses and losses through the creation of avoidance zones can be reduced, or even reclaimed.

Management Actions for Soils, Water, and Air

Effects from soil, water, and air management can be adverse or beneficial for the wildlife habitat resource. Normally management actions that maintain adequate water quality or soil stability and productivity are beneficial.

Mitigative measures can be used to reduce the severity of adverse effects on wildlife and fisheries habitat from surface-disturbing activities. Such effects can result from exploration and development for coal, oil and gas or locatable minerals; fire suppression with heavy equipment; livestock grazing, or ORV use. Soil compaction and accelerated wind and water erosion can result in reduced site productivity and increased sedimentation, which adversely affect forage and cover for terrestrial wildlife species and water quality for fisheries. Reclamation, where feasible, can benefit wildlife over the long term by restoring habitat that has been lost or reduced in quality.

PLANNED HABITAT MANAGEMENT ACTIONS

Table WL-AP-2 presents wildlife habitat improvement actions for both existing and proposed HMP areas, and table WL-AP-3 lists inventories and monitoring that would be carried out in each HMP area under the various alternatives.

TABLE WL-AP-2

WILDLIFE HABITAT IMPROVEMENT ACTIONS BY HMP AREA

Management Action	Present HMP Areas						Proposed HMP areas (Alternatives C and D)			
	Baggs (387,000 acres)	Ferris-Seminoe (436,137 acres)	Shirley Mountains (460,730 acres)	Sage Creek Basin (145,267 acres)	Encampment Bighorn Sheep (8,250 acres)	Red Desert (1.1 million acres)	South Desert (670,000 acres)	Saratoga Valley (462,600 acres)	Laramie Peaks (228,000 acres)	Jelm Mountain (78,700 acres)
In-stream structures (fisheries)	11 mi.	1 mi.	2 mi.	2 mi.	NP	NP	NP	X	X	NP
Aquatic wetland improvement (plantings)	100 ac.	NP	10 ac.	80 ac.	NP	50 ac.	X	X	X	NP
ORV closure mule deer CWR[1]	8,300 ac.	NP	NP	NP	6,700 ac.	NP	NP	NP	NP	NP
Grazing exclosure fisheries—Colorado River cutthroat trout and other species	2	NP	NP	NP	NP	NP	NP	X	NP	NP
Riparian improvement fencing	80 ac.	63 ac.	20 ac.	218 ac.	NP	50 ac.	X	X	X	X
Waterfowl nesting structures (number)	5	4	4	5	NP	X	X	X	X	NP
Reservoir development waterfowl (number)	28	X	3	X	NP	10	X	X	X	X
Prescribed burns habitat diversity	18,500 ac.	X	NP	NP	X	NP	X	X	X	X
Fencing—CWR[1] grazing management	8 mi.	1 mi.	NP	NP	NP	NP	NP	X	X	X
Aspen regeneration management	500 ac.	X	NP	NP	X	NP	NP	X	NP	X
Reservoir air pump/ windmill—fisheries and waterfowl (number)	NP	1	2	NP	NP	NP	NP	NP	NP	NP

TABLE WL-AP-2 (Continued)

WILDLIFE HABITAT IMPROVEMENT ACTIONS BY HMP AREA

Management Action	Present HMP Areas						Proposed HMP areas (Alternatives C and D)			
	Baggs (387,000 acres)	Ferris-Seminoe (436,137 acres)	Shirley Mountains (460,730 acres)	Sage Creek Basin (145,267 acres)	Encampment Bighorn Sheep (8,250 acres)	Red Desert (1.1 million acres)	South Desert (670,000 acres)	Saratoga Valley (462,600 acres)	Laramie Peaks (228,000 acres)	Jelm Mountain (78,700 acres)
Erosion control (fisheries)	NP	NP	1/4 mi.	NP	NP	NP	NP	NP	NP	NP
In-stream structures (riparian improvement)	100 mi.	NP	NP	NP	NP	5 mi.	X	X	X	X
Plantings (riparian improvement)	80 ac.	18 ac.	NP	X	NP	50 ac.	X	X	X	X
Vegetation chaining to rejuvenate high priority habitat	X	NP	NP	NP	NP	NP	NP	NP	NP	NP
Road closures	NP	NP	2-4 mi.	NP	NP	NP	NP	X	NP	NP
Fence modifications	NP	X	NP	NP	NP	10 mi.	X	X	X	X
Shrub plantings	NP	NP	10 ac.	NP	NP	10 ac.	X	X	NP	X
Reservoir development fisheries (number)	NP	NP	1	X	NP	NP	NP	X	NP	NP
Digitize habitat types	NP	NP	NP	NP	NP	500,000 ac.	NP	NP	NP	NP
Computerize wildlife values for computer generated maps for rapid information retrieval	387,000 ac.	NP	NP	NP	NP	1,000,000 ac.	NP	NP	NP	NP

NOTE: X = planned, but specific quantities not determined; NP = none planned.

[1] Crucial winter range.

TABLE WL-AP-3

WILDLIFE HABITAT INVENTORIES AND MONITORING BY HMP AREA

(in acres unless otherwise noted)

	Present HMP Areas						Proposed HMP Areas (Alternatives C and D)			
Type of Action	Baggs	Ferris-Seminoe	Shirley Mountains	Sage Creek Basin	Encampment Bighorn Sheep	Red Desert	South Desert	Saratoga Valley	Laramie Peaks	Jelm Mountain
Inventories										
Raptors	12,000	10,000	NP	NP	NP	600,000	X	X	X	X
Prairie dog towns	50,000	500 acres/yr	50,000	NP	NP	600,000	X	X	X	X
Sage grouse/sharp-tailed grouse	80,000	X	NP	NP	NP	1,000,000	X	X	X	X
Sandhill crane	3,000	NP	NP	NP	NP	NP	NP	NP	NP	NP
Big Game CWR[1]										
Antelope	NP	X	15,000	NP	NP	NP	X	X	NP	NP
Mule deer	NP	X	X	NP	NP	NP	X	X	X	X
Elk	NP	X	X	NP	NP	50,000	NP	X	X	X
Bighorn sheep	NP	X	PH	NP	X	NP	NP	X	X	NP
Aspen sites	NP	X	NP	NP	NP	NP	NP	NP	NP	NP
High priority habitats	NP	NP	16,000 (acres/yr)	NP	NP	NP	X	NP	NP	NP
Riparian	1,000	NP	NP	X	NP	NP	X	X	X	X
Trout stream	NP	NP	X	X	NP	NP	NP	NP	NP	NP
Waterfowl	NP	NP	NP	NP	NP	10,000	NP	NP	NP	NP

TABLE WL-AP-3 (Continued)

WILDLIFE HABITAT INVENTORIES AND MONITORING BY HMP AREA

(in acres unless otherwise noted)

	Present HMP Areas						Proposed HMP Areas (Alternatives C and D)			
Type of Action	Baggs	Ferris-Seminoe	Shirley Mountains	Sage Creek Basin	Encampment Bighorn Sheep	Red Desert	South Desert	Saratoga Valley	Laramie Peaks	Jelm Mountain
Monitoring										
Raptors	75,000	NP	X	X	NP	600,000	X	NP	NP	X
Sage grouse/sharp-tailed grouse	45,000	NP	X	NP	NP	1,000,000	X	NP	NP	X
Big Game CWR[1]										
Antelope	53,000	X	NP	NP	NP	500,000	X	NP	NP	NP
Mule deer	74,000	X	X	NP	X	NP	X	NP	NP	X
Elk	120,000	NP	X	NP	X	50,000	NP	X	X	X
Bighorn sheep	NP	NP	NP	NP	X	NP	NP	X	X	X
Bald eagle roosts	25 mi	NP	NP	NP	NP	NP	NP	NP	NP	NP
Fisheries	X	X	NP	X	NP	NP	NP	NP	NP	NP
Riparian	1,000	X	X	X	NP	NP	X	X	X	X
High priority habitat	18,000	NP	NP	NP	NP	NP	X	NP	NP	NP
Waterfowl	NP	NP	NP	NP	NP	10,000	NP	NP	NP	NP
Studies										
Raptors (oil & gas impacts and mitigation)	29,400	22,240	NP	8,000	NP	17,280	15,770	5,440	NP	NP
Food habits/competition	NP	NP	NP	NP	X	NP	NP	X	NP	NP

NOTE: X = planned, but specific quantities not determined; NP = none planned; PH = potential habitat

[1] Crucial winter range.

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GLOSSARY

ACCIPITER. A term that refers to the species of forest-dwelling hawks belonging to the genus *Accipiter*. Accipiters typically are short-winged, long-tailed forest hawks characterized by secretive breeding habits and very aggressive behavior. Three species of the genus inhabit the planning area, the goshawk (*Accipiter gentilis*), the Cooper's hawk (*Accipiter cooperii*), and the sharp-shinned hawk (*Accipiter striatus*).

ACRE-FOOT. A term used in measuring the volume of water. An acre-foot is the amount of water required to cover 1 acre to a depth of 1 foot, or 43,560 cubic feet (325,851 gallons).

ACTIVITY PLANNING. Site-specific planning that precedes development. This is the most detailed level of BLM planning. An activity plan details management of one or more resources on a specific site. Examples are allotment management plans and recreation area management plans. Activity plans implement decisions made in the RMP.

ACTUAL USE. The number of livestock actually grazing on a given allotment. The use made of forage by livestock or wildlife without reference to permitted or recommended use.

ALLOTMENT. An area allocated for the use of the livestock of one or more qualified grazing lessees. It generally consists of BLM-managed lands but may include parcels of private or state-owned lands. The number and kind of livestock and period of use are stipulated for each allotment. An allotment may consist of several pastures or may be only one pasture.

ALLOTMENT MANAGEMENT PLAN. A concisely written program of livestock grazing management, including supportive measures, if required, designed to attain specific management goals in a grazing allotment. An AMP is prepared in consultation with the permittee(s), lessee(s), and other affected interests. Livestock grazing is considered in relation to other uses of the range and in relation to renewable resources such as watershed, vegetation, and wildlife. An AMP establishes seasons of use, the number of livestock to be permitted, the range improvements needed, and the grazing system.

ALLUVIUM. Unconsolidated rock or soil material such as gravel, sand, silt, or clay, that has been deposited by running water.

ANIMAL UNIT. A standardized unit of measurement for range livestock or wildlife. Generally, one mature (1,000-pound) cow or its equivalent, based on an average daily forage consumption of 26 pounds of dry matter per day.

ANIMAL UNIT MONTH. A standardized unit of measurement of the amount of forage necessary for the sustenance of one animal unit for one month; also , a unit of measurement that represents the privilege of grazing one animal unit for one month.

AQUIFER. An underground body of rock, sand, or gravel that is saturated with and conducts groundwater; a water-bearing formation that yields water to wells or springs.

AREA OF CRITICAL ENVIRONMENTAL CONCERN. An area within the public lands designated for special management attention to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards.

"BLOCKED" LANDS. Public lands in units of manageable size, as opposed to those in which the ownership pattern is "scattered" or "checkerboarded" between federal ownership and other ownership.

BOARD FOOT. A unit of solid wood 1 foot square and 1 inch thick.

BROWSE. The tender shoots, twigs, and leaves of trees and shrubs often used as food by deer, antelope, livestock, and other animals; to feed on browse.

CASUAL USE. Activities ordinarily resulting in no appreciable disturbance of public lands, resources, or improvements; for example, activities that do not involve the use of mechanized earthmoving equipment or explosives or, in areas designated as closed to ORVs, do not involve the use of motorized vehicles.

CATEGORY 1, 2, or 3 CANDIDATE SPECIES. Classification by the Fish and Wildlife Service, U.S. Department of the Interior, of taxonomic groups or species of plants or animals that are being considered for listing as either threatened or endangered under the Endangered Species Act of 1973, as amended.

Category 1 refers to species or taxonomic groups for which the USFWS has on file substantial information on biological vulnerability and threat(s) to support the appropriateness of proposing to list them as endangered or threatened. Data are being gathered on category 1 species concerning precise habitat needs and, for some, the precise boundaries for critical habitat designations.

Category 2 refers to species or taxonomic groups for which information in possession of the USFWS indicates that listing them as endangered or threatened species is possibly appropriate, but for which substantial data on biological vulnerability and threat(s) are not known or on file. Further research and field study usually will be necessary to ascertain the status of category 2 species, and some will not warrant listing while others will be found to be in greater danger of extinction than some listed in category 1.

Category 3 refers to species or taxonomic groups that are no longer being considered for listing as threatened or endangered, some because there is persuasive evidence of extinction, some because they do not meet the act's definition of "species," and some because they have proven to be more abundant or widespread than was previously believed.

CHECKERBOARD LANDOWNERSHIP PATTERN. Pattern in which ownership of sections of land alternates between federal and other ownership, usually private. On a map with different colors denoting different types of ownership, the pattern resembles a checkerboard. This ownership pattern, which dominates the central portion of Albany, Carbon, and Sweetwater counties, was created by railroad land grants that occurred from 1850 to 1871. The government granted the Union Pacific Railroad Company alternate sections of land in each township within 20 miles on either side of its proposed railroad as an incentive to build the railroad. The federal government retained the even-numbered sections, granting sections 16 and 36 of each township to the state for school sections.

CLASSIFICATION AND MULTIPLE USE. Refers to both the Classification and Multiple Use Act of 1964 and the classifications that were placed on the lands pursuant to that act. The objective of the C&MU act was to provide an opportunity for the BLM to categorize lands for multiple use management and for disposal. The act provided four years for the BLM to classify lands for multiple use management by prohibiting disposal or entry under various public land laws to be specified in the particular classification document.

The C&MU classifications referred to in this document prohibited disposal under the Isolated Tracts Act (Revised Statutes 2455) and entry under the agricultural entry laws (Homestead Act, Desert Land Act, and others); portions of the C&MUs also prohibited entry under the General Mining Law of 1872. Today, the multiple use provisions of FLPMA fulfill the purpose and objectives of the C&MU classifications.

CLIMAX PLANT COMMUNITY. The final vegetative community that emerges after a series of successive vegetational stages, representing the highest ecological development of a plant community capable of perpetuation under the prevailing climate and soil conditions.

"CLOSED" DESIGNATION (ORV). See the description of off-road vehicle designations under "Recreation" in chapter 1.

COMMERCIAL FORESTLAND. Forestland that is now producing or is capable of producing at least 20 cubic feet of wood fiber per acre per year from commercial coniferous tree species, and which has met certain economic, environmental, or multiple use criteria for inclusion in the commercial forestland base.

CORRIDOR. A linear strip of land that forms a passageway between two points, in which transportation or utility systems may be located.

COVER. Vegetation or terrain used by wildlife for protection from predators and adverse weather conditions. Cover is a major component of wildlife habitat.

CRUCIAL HABITAT. Habitat on which a species depends for survival because there are no alternative ranges or habitats available.

CRUCIAL WINTER RANGE. The portion of the winter range to which a wildlife species is confined during periods of heaviest snow cover.

CULTURAL RESOURCE. A fragile and nonrenewable remnant of human activity, occupation, or endeavor reflected in districts, sites, structures, buildings, objects, artifacts, ruins, works of art, architecture, or natural features.

CULTURAL RESOURCE INVENTORY. A descriptive listing and documentation, including photographs and maps, of cultural resources. Processes involved are locating, identifying and recording of sites, structures, buildings, objects, and districts through library and archival research; collecting information from persons knowledgeable about cultural resources; and conducting on-the-ground field surveys of varying levels of intensity. Also see *Cultural Resource Inventory Classes.*

CULTURAL RESOURCE INVENTORY CLASSES. A **Class I** inventory of a defined area provides a narrative overview derived from existing information and a compilation of existing data on which to base the development of the BLM's site record system. A **Class II** inventory is a sample-oriented field inventory designed to locate and record, from surface and exposed profile indications, all cultural resource sites within a portion of a defined area to make possible an objective estimate of the nature and distribution of cultural resources in the entire defined area. A **Class III** inventory is an intensive field inventory designed to locate and record all cultural resource sites within a specified area. Upon completion of such an inventory, no further cultural resource inventory work is normally needed in that area.

CULTURAL RESOURCE MANAGEMENT PLAN. A plan designed to inventory, evaluate, protect, preserve, or make beneficial use of cultural resources and the natural resources that figured significantly in cultural systems. The objectives of such plans are the conservation, preservation, and protection of cultural values and the scientific study of those values.

CULTURAL RESOURCE SITE (cultural property). A physical location of past human activities or events. Cultural properties are extremely variable in size, ranging from the location of a single cultural resource feature to a cluster of cultural resource structures with associated objects.

DIATREME. A general term for a volcanic vent or pipe emplaced in rocks (usually flat-lying sedimentary rocks) by the explosive energy of gas-charged magmas. The diamond-bearing kimberlite pipes of South Africa are diatremes.

DIRECT SALE. A sale of lands or minerals at fair market value to a designated purchaser without competitive bidding.

DISPOSAL. Transfer of ownership of a tract of public land from the United States to another party through sale, exchange, or transfer under the Recreation and Public Purposes Act.

EASEMENT. A right afforded a person or agency to make limited use of another's real property for access or other purposes.

ECOLOGICAL CONDITION. The present state of the vegetation of a range site in relation to the climax plant community for that site. Ecological condition is expressed as excellent, good, fair, or poor. More information is available at the beginning of the Livestock Grazing appendix.

ECOSYSTEM. A biological community together with its nonliving environment, forming an interacting system inhabiting an identifiable space.

EDGE. The place where plant communities meet or where successional stages or vegetative conditions within plant communities come together. The increased richness of flora and fauna resulting from the mixing of two plant communities where they join.

ENDANGERED SPECIES. Any plant or animal species that is in danger of extinction throughout all or a significant portion of its range, as defined by the U.S. Fish and Wildlife Service under the authority of the Endangered Species Act of 1973.

ENDEMIC. Belonging or native to a certain region; not introduced.

ENVIRONMENTAL ASSESSMENT. A record of the environmental factors involved in a land management action.

ENVIRONMENTAL IMPACT STATEMENT. A written analysis of the impacts of a proposed project and alternatives.

EPHEMERAL STREAM. A stream that flows for only a short time each year in direct response to precipitation events.

EXTIRPATE. To destroy totally; to make extinct.

FEDERAL LANDS. As used in this document, lands owned by the United States, without reference to how the lands were acquired or what federal agency administers the lands. The term includes mineral estates or coal estates underlying private surface but excludes lands held by the United States in trust for Indians, Aleuts, or Eskimos. Also see *Public Land.*

FIRE MANAGEMENT. The integration of knowledge of fire protection, prescribed fire, and fire ecology into multiple use planning, decision making, and land management activities. Fire management places fire in perspective with overall land management objectives.

FIRE MANAGEMENT PLAN. An activity plan developed to support and accomplish resource management objectives and applicable land-use decisions authorized in BLM resource management plans. A FMP contains an economic analysis and establishes the basic direction for the fire management program, identifies priorities for execution, and determines levels of fire resources (personnel, engines, aircraft, and facilities). Also see the Fire Management appendix.

FIRE SUPPRESSION. All work activities connected with fire extinguishing operations, beginning with discovery and continuing until the fire is completely out.

FLOODPLAIN. The nearly level alluvial plain that borders a stream and is subject to inundation during high water.

FORAGE. All browse and herbaceous foods available to grazing animals.

FORAGE UTILIZATION. The proportion of vegetation or foliage removed from a plant by grazing or browsing animals. Usually expressed as a percentage of the plant's total annual weight.

FOREST DEVELOPMENT. A program of silvicultural treatment to perpetuate and improve production of wood and related values. It includes such treatments as site preparation, seeding, planting, and protective measures.

FORESTLAND. Land that is now, or is capable of becoming, at least 10% stocked with forest trees, which has not been developed for nontimber use.

FOREST STRINGER HABITAT. Forest vegetation arranged in a more or less linear fashion and normally forming an "edge" where it meets other vegetation community types (for example, mountain brush or sagebrush-grass).

FULL SUPPRESSION. A fire suppression strategy requiring immediate and continuous aggressive attack to attain the suppression objectives with the least damage of property or loss of resources in the most cost-effective manner. Such actions may include control, containment, or confinement of wildfire to attain land management objectives. The Fire Management appendix contains a more detailed description.

GRAZING LEASE. A document authorizing the grazing of a specified number and kind of livestock on a designated area of BLM-managed public land for a specified period.

GRAZING PREFERENCE. The total number of AUMs on public land apportioned and attached to base property owned or controlled by a lessee.

GRAZING SYSTEM. A systematic sequence of grazing use and nonuse of an allotment to reach identified multiple use goals or objectives. The Livestock Grazing appendix contains more detailed information.

GROUNDWATER. The part of subsurface water that completely saturates the rocks and is under hydrostatic pressure.

HABITAT CONDITION. The condition of seasonal habitat as it relates to the needs of a particular big game species. Condition is determined by such factors as browse vigor rating, forage quality, cover factors, human interference, water distribution, and vegetation quality. Components are evaluated independently. Habitat condition is somewhat related to, but is not the same as, existing or potential range condition.

HABITAT MANAGEMENT PLAN. An officially approved activity plan for a specific geographic area of public land. An HMP identifies wildlife habitat and related objectives, defines the sequence of actions to be implemented to achieve the objectives, and outlines procedures for evaluating accomplishments.

HIGHWALL. The unexcavated face of exposed overburden and coal or ore; the face or bank of the uphill side of a contour strip-mine excavation.

KIMBERLITE. A coarse-grained igneous rock consisting of mica and a variety of dark-colored minerals such as olivine, pyroxene, and others. Some kimberlite contains diamonds.

KNOWN GEOLOGIC STRUCTURE. An area known to contain producible oil and gas deposits. A trap in which an accumulation of oil and gas has been discovered by drilling and which has been determined to be productive. The limits of a KGS comprise all acreage that is presumptively productive. If lands are underlain by a KGS, they may be leased only through a competitive system.

LEASABLE MINERALS. Minerals subject to lease by the federal government, such as coal, oil and gas, oil shale, potash, sodium, phosphate, and other minerals that may be acquired under the Mineral Leasing Act of 1920, as amended. The major leasable minerals in the planning area are oil and gas and coal.

LEGAL DESCRIPTION. The description of a particular parcel of land according to the official plat of its cadastral survey. Legal descriptions of lands involved in BLM actions generally specify township and range numbers, followed by section number and then portion of the section; for example, T49N, R75W, Sec. 6, S½NE¼

LEK. A site used by grouse for courtship display. Also called "strutting ground" or "dancing ground." The lek is the center point of the annual reproduction cycle. Most nesting occurs within 2 miles of the lek.

"LIMITED" DESIGNATION (ORV). See the description of off-road vehicle designations under "Recreation" in chapter 1.

LIMITED SUPPRESSION. A deviation from normal fire suppression procedures based on a land-use decision or practiced where controlling fires is extremely difficult or dangerous, or where the values at risk do not warrant the expense associated with full suppression. Such fires will receive an appropriate suppression response. The Fire Management appendix contains a more detailed description.

GLOSSARY

LIMITED SUPPRESSION PLAN. A written fire management plan that is approved by the appropriate line authority and designates limited fire suppression areas. Such plans must include plan objectives, area description, fire history and effects, action planned, and evaluation procedures required. The Fire Management appendix contains a more detailed description.

LOCATABLE MINERALS. Generally, the metallic minerals subject to development specified in the Federal Mining Law of 1872. Examples are gold, silver, and copper.

MANAGEMENT FRAMEWORK PLAN. A BLM planning decision document that establishes, for a given planning area, land use allocations, coordination guidelines for multiple use, and management objectives to be achieved for each class of land use or protection. This type of land use plan is being replaced by the resource management plan.

MASS WASTING. A general term for a variety of processes by which large masses of earth material are moved by gravity either slowly or quickly from one place to another.

MESIC. Pertaining to habitat characterized by a moderate amount of moisture.

MITIGATION. A method or process by which impacts from actions may become less injurious to the environment through appropriate protective measures. Also called mitigative measure.

MONITORING. Specific studies that evaluate the effectiveness of actions taken toward achieving management objectives.

MULTIPLE USE. Coordinated management of various surface and subsurface resources so that they are used in the combination that will best meet present and future needs.

NATIONAL REGISTER OF HISTORIC PLACES. The official list, established by the Historic Preservation Act of 1966, of the nation's cultural resources worthy of preservation.

NONCOMMERCIAL FORESTLAND. Land that is not capable of yielding at least 20 cubic feet of wood per acre per year of commercial species; also, land that is capable of producing only noncommercial tree species.

OFF-ROAD VEHICLE. Any motorized tracked or wheeled vehicle designed for cross-country travel over any type of natural terrain. Exclusions (from Executive Order 11644, as amended by Executive Order 11989) are nonamphibious registered motorboats, any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes, any vehicle whose use is expressly authorized by the authorizing officer or otherwise officially approved, vehicles in official use, and any combat support vehicle in times of national defense emergencies.

"OPEN" DESIGNATION (ORV). See the description of off-road vehicle designations under "Recreation" in chapter 1.

OVERBURDEN. Any soil material that overlies a useful mineral deposit. No distinction is made regarding various types of layers or material.

OVERMATURE. The period in the life cycle of stands of trees when growth is declining.

PARTURITION. Giving birth to offspring.

PASSERINE. Of or relating to the largest order of birds, *Passeriformes*, which includes more than half of all living birds and consists chiefly of songbirds of perching habits whose young when hatched are very helpless and require care for some time.

PATENTED CLAIM. A mining claim on which title has passed from the federal government to the claimant under the 1872 Mining Law.

PERENNIAL STREAM. A stream that flows throughout the year.

PLANNING CRITERIA. The factors used to guide development of a resource management plan or revision. They ensure that a plan or revision is tailored to the issue previously identified and that unnecessary data collection and analysis are avoided. Planning criteria guide the collection and use of inventory data, the analysis of the management situation, the formulation of alternatives, the estimates of the effects of alternatives, the evaluation of alternatives, and the selection of the preferred alternative.

PREFERENCE. Grazing privileges established following the passage of the Taylor Grazing Act, based on the use of the federal range during the priority period. The active preference and suspended preference together make up the total grazing preference.

PREFERENCE RIGHT LEASE APPLICATION. An application for a noncompetitive coal lease. Under the Mineral Leasing Act of 1920, the Secretary of the Interior was authorized to issue exploration permits for land where the existence or workability of coal resources was unknown. A permittee who could demonstrate, during the term of the permit, the existence of commercial quantities of coal was entitled to a "preference right lease"; that is, a noncompetitive lease. Provisions for prospecting permits were repealed in 1976, but current federal coal regulations (943 CFR 3430) provide for processing of pending PRLAs.

PRESCRIBED FIRE. The application of fire in a controlled manner to a specified area under specific weather conditions (a prescription) to achieve predetermined resource management objectives; the use of fire as a resource management tool.

PUBLIC LAND. As used in this document, surface or mineral estate administered by the Bureau of Land Management. Also see *Federal Lands*.

QUALIFIED SURFACE OWNER. According to federal coal regulations (43 CFR 3400), to be a qualified surface owner a person or persons must (a) hold legal or equitable title to the surface of split estate lands; (b) have their principal place of residence on the land, or personally conduct farming or ranching operations on a farm or ranch unit to be affected by surface mining operations, or receive directly a significant portion of their income, if any, from such farming and ranching operations; and (c) have met conditions a and b for a period of at least three years except for persons who gave written consent less than three years after meeting the conditions of a and b. The three-year period includes periods during which title was owned by a relative of the person by blood or marriage if, during such periods, the relative would have met the requirements as indicated.

RANGE IMPROVEMENT. Any activity or program on or relating to rangelands that is designed to improve production of forage, change vegetation composition, control patterns of use, provide water, stabilize soil and water conditions, or provide habitat for livestock, wild and free-roaming horses and burros, or wildlife. **Range improvement projects** may be fences, reservoirs, brush control, or spring and well developments.

RANGELAND MONITORING PROGRAM. A program designed to measure changes in plant composition, ground cover, animal populations, and climatic conditions on the public rangeland. Studies monitor changes in range condition and determine the reason for any changes. Studies also monitor actual use, forage utilization, trend, and climatic conditions.

RECREATION AND PUBLIC PURPOSES. R&PP refers to both the Recreation and Public Purposes Act [(43 USC 869(a)] land the uses to be made of public land transferred under the act. The objective of the R&PP Act is to meet the needs of state and local government agencies and nonprofit organizations by leasing or conveying public land required for recreation and public purpose uses. Examples of uses made of R&PP lands are parks and greenbelts, sanitary landfills, schools, religious facilities, and camps for youth groups. The act provides substantial cost benefits for land acquisition and provides for recreation facilities or historical monuments at no cost.

RECREATION VISITOR DAY. An aggregation of 12 visitor hours. A visitor hour is the presence of one or more persons on land and water for outdoor recreation for periods totaling 60 minutes; for example, one person for one hour, two persons for one-half hour each, and so on.

REGENERATION. The renewal of a tree crop by natural or artificial means. Also, the young crop itself.

RIGHT-OF-WAY. The legal right of use, occupancy, or access across land or water areas for a specified purpose or purposes. Also, the lands covered by such legal rights.

RIPARIAN. Situated on or pertaining to the bank of a river, stream, or other body of water. Normally used to refer to plants of all types that grow rooted in the water table of streams, ponds, and springs.

RIPARIAN COMMUNITIES. Communities of vegetation associated with either open water or water close to the surface. Examples are meadows, aspen, and other trees and shrubs associated with water.

SALABLE MINERALS. Minerals that may be sold under the Material Sale Act of 1947, as amended. Included are sand, gravel, flagstone, scoria, and crushed rock such as limestone.

SAWTIMBER. Trees that have reached sufficient size and maturity to be used for "dimension lumber" such as 2 x 4s.

SCARIFICATION. Disturbance of the upper soil layer by mechanical means in preparation of a site for seeding.

SCOPING. A process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action. The process involves participation of affected federal, state, and local agencies, affected Indian tribes, and other interested persons, as well as the general public. As part of the scoping process, one or more public meetings are held early in the process of document preparation.

SEASON OF USE. The time during which livestock grazing is permitted on a given range area, as specified in the grazing lease.

SILVICULTURE. The establishment, development, reproduction, and care of forest trees.

SLOPE. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by the horizontal distance, then multiplied by 100. A slope of 20% is a drop of 20 feet in 100 feet of horizontal distance.

SOIL COMPACTION. Increasing the bulk density of soil through the compression of large voids. Reduction of the air spaces in soil can result in overland flow of water and in surface erosion. It also can significantly reduce plant vigor in the root zone.

SOIL PRODUCTIVITY. The capability of a soil to produce a specified plant or sequence of plants under a specified system of management.

SPATIAL MANAGEMENT. As used in this document, intensive control of the location and level of surface disturbance that would be allowed in a particular area. Spatial management is described in more detail in the section on assumptions for wildlife in chapter 4.

SPLIT ESTATE. Surface and minerals of a given area in different ownerships. Frequently the surface will be privately owned and the minerals federally owned.

STAGING AREAS. Areas where certain species of birds (for example, sandhill cranes) gather in large groups before fall migration. Staging activity may last for several weeks.

STIPULATION. A condition or requirement attached to a lease or contract, usually dealing with protection of the environment or recovery of a mineral.

STRUTTING GROUND. An area used by sage grouse in early spring for elaborate, ritualized courtship displays. Also see *Lek*.

SUBSTRATE. As related to nesting of raptors, refers to the physical base upon which a nest is built, such as trees, shrubs, cliff edges, rock outcrops, or ground.

SURFACE DISTURBANCE. Disturbance of the vegetative or soil surface by any action. "No surface disturbance" restrictions apply to all activities but casual use and emergency situations such as fire suppression.

SURFACE OCCUPANCY. Placement or construction on the land surface of semipermanent or permanent facilities requiring continual service or maintenance. Casual use is not included.

SURFACE WATER. All waters on the land surface, such as lakes, ponds, reservoirs, rivers, and streams.

SUSTAINED YIELD. The achievement and maintenance in perpetuity of a high level annual or regular periodic output of the various renewable resources of the public lands consistent with multiple use. It applies to the management of all renewable resources, including forage, wildlife, water, recreation, and any value that can be managed for renewal and sustained productivity.

TEMPORAL MANAGEMENT. As used in this document, intensive control of the period during which the BLM will allow activities that are physiologically disturbing or disrupting to normal wildlife activities such as elk migration. Temporal management is described in more detail in the section on assumptions for wildlife in chapter 4.

THREATENED SPECIES. Any plant or animal species that is likely to become an endangered species throughout all or a significant portion of its range, as defined by the U.S. Fish and Wildlife Service under the authority of the Endangered Species Act of 1973.

TOTAL DISSOLVED SOLIDS. A measure of the mineral and organic material dissolved in water. It is usually determined by evaporating a filtered volume of water and weighing the residue. The amount of residue is expressed as a proportion of the original sample in parts per million or milligrams per liter (mg/l).

TOTAL SUSPENDED PARTICULATES. All solid or semi-solid material found in the atmosphere.

UNGULATE. A member of the taxonomic order (*ungulata*) of hoofed mammals including, in this planning area, deer, elk, pronghorn, and bighorn sheep.

UNSUITABILITY CRITERIA. Criteria of the federal coal management program by which lands may be assessed unsuitable for all or certain stipulated methods of coal mining.

VEGETATIVE TYPE. A plant community with visually distinguishable characteristics, named for the apparent dominant species.

VISUAL RESOURCE. Visible feature of the landscape such as land, water, vegetation, animals, and other features that make up the scenery of an area.

VISUAL RESOURCE MANAGEMENT. The system by which the BLM classifies and manages scenic values and visual quality of public lands. The system is based on research that has produced ways of assessing aesthetic qualities of the landscape in objective terms. After inventory and evaluation, lands are given relative visual ratings (management classes), which determine the amount of modification allowed to the basic elements of the landscape.

VISUAL RESOURCE MANAGEMENT CLASSES. See the section on visual resource management in chapter 3.

WATERSHED. A total area of land above a given point on a waterway that contributes runoff water to the flow at that point. **Sensitive watershed** is an area with fragile geologic, soil, or vegetative conditions, where small changes in the intensity of land use can cause large changes in erosion rates.

WETLANDS. Permanently wet or intermittently flooded areas where the water table (fresh, saline, or brackish) is at, near, or above the soil surface for extended intervals, where hydric wet soil conditions are normally exhibited, and where water depths generally do not exceed two meters.

WILDFIRE. A free-burning fire requiring a suppression response.

WITHDRAWAL. An action that restricts the use of described public lands from operation of certain laws, which are also described in the withdrawal order. Withdrawal also may be used to transfer jurisdiction or management to other federal agencies.

XERIC. Low or deficient in moisture available to support plant life.

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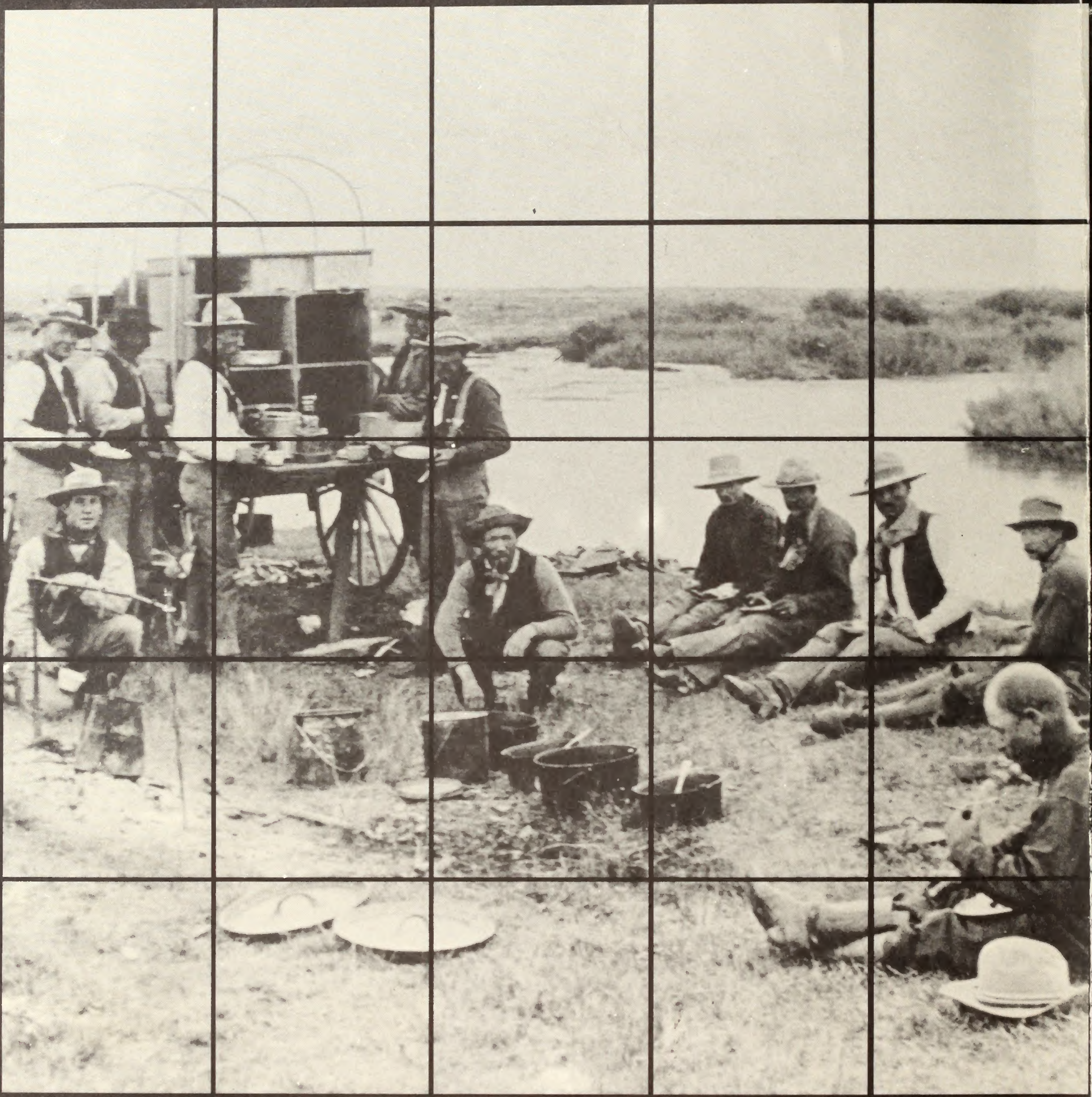

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